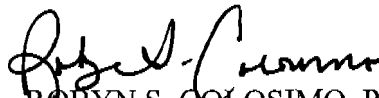


MEMORANDUM FOR CHIEF, NAD REGIONAL INTEGRATION TEAM (Mr. Groska)

SUBJECT: Bloomsburg, Columbia County, Pennsylvania, Final Feasibility Report and Environmental Impact Statement (August 2005) – Documentation of Review Findings

1. This memorandum forwards the documentation of policy compliance review findings for the subject project proposal. In the opinion of the policy compliance review team, all policy review concerns have been adequately addressed for this phase of project formulation and development.
2. Office of Water Project Review consideration of subject feasibility report and environmental assessment is complete. Questions concerning the HQUSACE policy compliance review of this project proposal may be discussed with review manager, Cliff Fitzsimmons, at 202-761-4527.

Encl



ROBYN S. COLOSIMO, P.E.  
Chief, Office of Water Project Review  
Policy and Policy Compliance Division  
Directorate of Civil Works

**DOCUMENTATION OF REVIEW FINDINGS**

**BLOOMSBURG, COLUMBIA COUNTY, PENNSYLVANIA  
FLOOD DAMAGE REDUCTION**

**FINAL FEASIBILITY REPORT  
AND  
ENVIRONMENTAL IMPACT STATEMENT**

**AUGUST 2005**

**ENCLOSURE**

**Bloomsburg, Columbia County, Pennsylvania  
August 2005**

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**DOCUMENTATION OF REVIEW FINDINGS**  
**BLOOMSBURG, COLUMBIA COUNTY, PENNSYLVANIA**  
**FINAL FEASIBILITY REPORT**  
**AND**  
**ENVIRONMENTAL IMPACT STATEMENT**  
**AUGUST 2005**

**A. GENERAL.**

**1. Policy Compliance Review Findings.** The following summarizes the final HQUSACE policy compliance review findings for the feasibility report and EIS on the proposed flood damage reduction project for Bloomsburg, Pennsylvania. This summary includes the concerns and the related resolutions of those concerns for the HQUSACE reviews of the August 2005 final feasibility report and EIS and the May 2004 draft feasibility report and DEIS. In the opinion of the policy compliance review team, all policy review concerns have been adequately addressed for this phase of project development. The draft report review information was originally documented in the CEMP-NAD Project Guidance Memorandum dated 08 October 2004. The final report review information was documented in the CECW-PC Project Assessment Memorandum dated 01 November 2005. The documentation that follows comprises the HQUSACE policy compliance review record.

**2. Project Location.** Bloomsburg is located in central Pennsylvania, about 135 miles west of Philadelphia. Bloomsburg is bound on the south by the Susquehanna River and on the west and north by Fishing Creek, a tributary of the Susquehanna River. The Community of Fernville is just north of Bloomsburg across Fishing Creek.

**3. Authority.** The feasibility study is in final response to a 14 September 1995 study resolution by the House of Representatives Committee on Transportation and Infrastructure.

**4. Non-Federal Sponsor.** The City of Bloomsburg would be the non-Federal sponsor for the design, construction and operation of the project, and will assume all OMRR&R responsibilities for the project. The Pennsylvania Department of Environmental Protection would provide half of the non-Federal share of project costs under a sub-agreement with the city.

**5. Problems, Needs And Opportunities.** Bloomsburg and Fernville have been frequently subject to overbank floods along the Susquehanna River and Fishing Creek. Backwater flooding also occurs along Fishing Creek due to high stages in the Susquehanna River. Both the river and the creek can rise quickly due to major rainfall or rapid snowmelt events. There is an opportunity to reduce average annual urban flood damages estimated at \$4,601,000.

**6. Plan Formulation.** The plan formulation addressed the reduction of recurrent flood damages along the Susquehanna River at Bloomsburg, including backwater flooding along Fishing Creek. Initial alternatives included non-structural and structural solutions. The non-structural measures included the acquisition of flood-prone property, floodplain zoning, floodproofing, and flood warning systems. All of the non-structural measures were screened out as stand-alone measures due to prohibitive costs or ineffectiveness. Structural measures included: stream modifications (channel deepening and widening, and bridge and culvert changes), detention basins, and levees and floodwalls. Levee and floodwall combinations were the most viable and sustainable solutions. Three alignments were examined to maximize net benefits. The selected alignment was then evaluated for four levels of protection, including flood events with an annual exceedence of 2, 1, 0.2, and 0.23 (Hurricane Agnes) percent, respectively. The solution with the greatest net benefits would be provided by a levee/floodwall system designed to protect against a 0.23-percent exceedence flood event on the Susquehanna River and 1-percent exceedence flood event on Fishing Creek. This is the NED Plan and it is the selected plan.

**7. Selected Plan.** The features in Bloomsburg include:

- About 9,600 feet of earthen levee;
- 760 feet of stabilized-earth floodwalls averaging about 14 feet high;
- 1,153 feet of concrete floodwalls;
- 7 closure structures and 5 road raises (ramps) for roads/railroad crossing the line of protection, including:
  - An 11-foot-high road raise and a 3-foot-high sandbag closure at Railroad Street;
  - A 12-foot-high stop log closure at Route 11 and West 2<sup>nd</sup> Street;
  - An 8.5-foot-high “Y”-shaped road raise and a 3-foot-high sandbag closure for the Fairground access and River Road;
  - An 8.5-foot-high road raise and a 2-foot-high sandbag closure for River Road at a second location;
  - A 13-foot-high road raise and a 3-foot-high jersey wall closure for the Fairground Parking Access;
  - An 11-foot-high miter gate across the railroad, and;
  - A 10-foot-high road raise and a 3-foot-high sandbag closure for West 11<sup>th</sup> Street;
- 9 drainage structures.

The selected features in Fernville include:

- About 4,350 feet of earthen levee;
- 710 feet of stabilized-earth floodwalls averaging about 14-feet high;
- an 8-foot-high road raise and a 5-foot-high stop log closure for Bloom Street;
- a 14.5-foot-high “Y”-shaped road raise for Hemlock and Drinker Streets;
- 5 drainage structures; and,
- A river stage gage and rain gages.

The selected mitigation plan includes:

- Developing 0.7 acres of emergent wetland;
- Developing 1.5 acres of forested wetland;
- Restoring fish passage through Boone's Dam; and
- Monitoring.

**8. Project Costs.** The estimated first cost of the recommended plan is \$43,302,000 at October 2005 price levels. LERRDs are estimated at \$11,982,000. The total equivalent annual cost is estimated at \$2,629,000. In addition, HTRW non-project cleanup costs are estimated at \$895,000 and are a non-Federal responsibility.

**9. Operation, Maintenance, Repair, Rehabilitation, and Replacement (OMRR&R).** The non-Federal sponsor is responsible for 100 percent of the OMRR&R for the project. The estimated annual cost for the OMRR&R for recommended plan is \$185,000.

**10. Project Benefits.** Implementation of the selected plan would reduce urban flood damages for flood events up to a 0.23-percent probability of exceedence (440-year event) on the Susquehanna River and a 1-percent probability of exceedence on Fishing Creek. The equivalent annual urban flood damage reduction benefit is estimated at \$3,723,000. The net benefit is estimated at \$1,094,000. The benefit-to-cost ratio is about 1.4 to 1. The estimates are based on a October 2005 price level, a 5.125 percent discount rate, and a 50-year period of analysis.

**11. Cost Sharing.** The non-Federal sponsor is responsible for a minimum cash contribution of 5 percent, all lands, easements, rights-of-way, relocations, and disposal (LERRD) costs, plus additional cash, if necessary, to reach the minimum 35-percent threshold, based on the cost sharing principles of Section 103, Water Resources Development Act of 1986, as amended by Section 202, Water Resources Development Act of 1996. The Federal share of the total first cost of the project is estimated at \$26,415,000 (65 percent) and a non-Federal share is estimate at \$16,051,000 (35 percent). See Table 1 below. The sponsor is also responsible for all OMRR&R.



Table 1 Bloomsburg, Columbia County, Pennsylvania Cost Sharing (October 2005 Price Level)			
Item	Federal Cost	Non-Federal Cost	Total Cost
PED (Percent)	\$ 1,934,000 (65)	\$ 1,042,000 (35)	\$ 2,976,000
LERR&D	\$ 0	\$ 11,982,000	\$ 11,982,000
Flood Damage Reduction	26,212,000	2,132,000	28,344,000
Subtotal (Percent)	\$ 26,212,000 (65)	\$ 14,114,000 (35)	\$ 40,326,000
Total Project (Percent)	\$ 28,146,000 (65)	\$ 15,156,000 (35)	\$ 43,302,000
HTRW (Percent)	\$ 0 (0)	\$ 895,000 (100)	\$ 895,000
Total with HTRW	\$ 28,146,000	\$ 16,051,000	\$ 44,197,000

**12. Environmental Compliance.** A Final Environmental Impact Statement (FEIS) was completed for the project and was filed with the U.S. Environmental Protection Agency on 03 October 2005. The Notice of Availability was published in the Federal Register on 21 October 2005. The comment period ended on 21 November 2005. The EPA Region III indicated no objection to the proposed project in a letter dated 21 November 2005.

**13. State and Agency Review.** The State and Agency Review for the final report began 13 October 2005 and ended 21 November 2005. In a letter dated 10 November 2005, the Department of the Interior did not object to the proposed project and had no comments to offer. In a letter dated 14 November 2005, the Pennsylvania Department of Environmental Protection concurred with the feasibility report and EIS. In a letter dated 01 December 2005, the Federal Management Agency, Region II, expressed the need to fulfill floodplain management requirements. No other letters were received.

**B. REVIEW COMMENTS ON THE AUGUST 2005 FINAL REPORT AND FEIS.**

**1. Comment 3a – Project Cost Displays.** The report summary should present the estimated first costs rather than the estimated fully funded costs (see the Table 1 heading, page B-3, EC 1105-2-405). The main report should display two project cost estimates; one based on constant dollars and one based on projected inflation rates in accordance with paragraphs 4-3b(2) and E-5, and Exhibit G-1 of ER 1105-2-100. Section 6 should probably present both estimates. The cost apportionment display in Table 6-2 should be based on the constant dollar estimate rather than the estimate with inflation in accordance with paragraph E-63i(22) in ER 1105-2-100. All costs should be rounded to the nearest thousand dollars.

**District Response.** We can agree to make this amendment via a report addendum and a revised report summary.

**Discussion.** The proposed solution will resolve this issue. While the report does have a constant dollar and fully inflated estimates, it does lack a cost apportionment based on constant dollars. The display is needed to support the Chief's Report and the authorization language. Tables 4-1 and 6-1 should also be revised as determined in several comments that follow.

**Required Action.** Add an addendum to present the updated constant dollar and inflated estimated costs separately, and a cost apportionment based on constant dollars. Revise the report summary as needed to match. The revised numbers will also be used in the Chief's Report

**Action Taken.** The addendum dated December 2005 includes displays showing updated and separate constant dollar and inflated cost estimates, and a cost apportionment based on constant dollars. The report summary also displays the updated cost estimates and cost apportionment.

**HQ Assessment.** The updated Table 6-2 in the addendum incorrectly shows the non-Federal HTRW cost as part of the 35-percent non-Federal cost share. It should be shown below the non-Federal cost share with a separate non-Federal total (see the updated Table 6-3 format). The updated Table 6-3 in the addendum has several incorrect numbers. The 35-percent non-Federal cost share is \$15,156,000. The Total Non-Federal Costs are \$16,051,000. The Federal Share is \$28,146,000. The costs in the table on page 9 of the Summary should be replaced with the Total Cost column from the updated Table 4-1 in the addendum. The cost apportionment table on page 10 of the Summary should use the numbers from the updated Table 6-3 in the addendum. The paragraph introducing this table should be revised accordingly to indicate the estimated costs are first costs or constant dollar costs and estimated at \$43,302,000.

**Action Taken.** The addendum and report summary were further revised to address the HQUSACE concerns stated above.

**HQ Final Assessment.** The revisions to the addendum and report summary are adequate. **This issue is resolved.**

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**2. Comment 3b – 7 Percent Discount Rate.** The benefit-to-cost ratio should be computed and displayed in the report summary using both the current interest rate and seven percent in accordance with Table 2A, page B-4, EC 1105-2-405.

**District Response.** We agree to this change.

**Discussion.** Issue is resolved subject to including the BCR at 7 percent in the report summary.

**Required Action.** Include the BCR at 7 percent in the report summary.

**Action Taken.** A BCR of 1.11-to-1 for a 7-percent discount rate is displayed in the addendum dated December 2005.

**HQ Final Assessment.** **This issue is resolved.**

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**3. Comment 3c – Current Price Level.** The current price level (October 2005) and discount rate (5-1/8 percent) for the cost and benefit estimates for the recommended plan should be displayed in the Project Summary and the Report of the Chief of Engineers in accordance with paragraphs 2-4i, D-3d(2), and D-4b, and Exhibit G-1 of ER 1105-2-100, and paragraph A-2.4.d of EC 11-2-187.

**District Response.** We can agree to update the discount interest rate but as discussed below in response to comment r (also labeled “Current Price Level”), updating the price levels has an unclear benefit at this stage of the process. We can also make this change in a new draft Chief’s report.

**Discussion.** There are two reasons to use the current price level. Most importantly, the cost included in the Chief’s Report will probably become the authorized cost subject to the Section 902 cost limit. Using an older cost estimate unnecessarily penalize the Sponsor and the Corps if costs increase significantly. Second and less importantly, current cost and benefit estimates are required to support the budget process. Including the October 2005 price level cost estimates in the addendum and report summary will resolve this issue (see paragraph B.1 above).

**Required Action.** Include the October 2005 price level cost estimates in the cost displays discussed above and in the addendum, report summary, and Chief’s report.

**Action Taken.** Both the addendum dated December 2005 and the Report summary display the cost estimates for the recommended plan at an October 2005 price level. The same estimates will be included in the Chief's Report.

**HQ Final Assessment. This issue is resolved.**

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**4. Comment 3d – Residual Damages.** The main report and Project Summary presentation of the recommended plan should disclose the residual flood damages in accordance with paragraphs 3-3(d) and E-18c(2) of ER 1105-2-100.

**District Response.** We agree to make this revision via a report addendum and embody this in the stated Sections in the event of a reprinting being triggered by ASA(CW) and/or OMB review.

**Discussion.** Presenting the residual damages in an addendum, the report summary and the Chief's Report would resolve this issue.

**Required Action.** Present the residual damages in the addendum, the report summary and the Chief's Report.

**Action Taken.** The addendum dated December 2005 and the current draft of the Chief's Report now display the residual damages for the recommended plan at an October 2005 price level.

**HQ Assessment.** As indicated above, the report summary should also display the residual damages.

**Action Taken.** The report summary now displays the residual damages for the recommended plan at an October 2005 price level.

**HQ Final Assessment.** The addendum and report summary now display the residual damages. **This issue is resolved.**

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**5. Comment 3e – Compliance Table.** The Revised Compliance Table dated September 27, 2005 largely satisfies the requirements of 40 C.F.R. §1503.1(a)(2)(i), which requires consultation with the "appropriate State and local agencies which are authorized to develop and enforce environmental standards." However, there is no record of consultation with the Pennsylvania Department of Environmental Protection (PA DEP). This appears to have taken place but there is no documentation. (For example, Engineering Appendix Annex E states that "PADEP and USACE will work together" in the next phase (PED) in order to coordinate HTRW concerns in areas near two landfills.)

**District Response.** DEP has a letter in the report and EIS about providing 50% of the local share. Further, they testified to this at the CWRB meeting. Is there a change needed here?

**Discussion.** Yes, a change is needed to document PA DEP consultation. Page 8-5 names agencies offering comments but PA DEP is not listed there, nor is it listed in the appended table listing agency comments. The table should be updated and PA DEP's name should be added in an addendum, provided we did solicit PA DEP for comments on the EIS. 40 CFR 1503.1(2)(i) requires that we request the comments of the "appropriate State and local agencies which are authorized to develop and enforce environmental standards." The cost-sharing letter does not indicate that we did this. As stated in the comment, this appears to be mostly an issue of documentation and should not take long to fix.

**Required Action.** Include documentation of the PA DEP consultation in the addendum.

**Action Taken.** The addendum dated December 2005 indicates the PA DEP intent to provide half of the non-Federal cost share through a sub-agreement with the Sponsor and mentions specific consultation with PA DEP regarding HTRW issues.

**HQ Final Assessment.** Although the addendum dated December 2005 does indicate the PA DEP intent regarding the non-Federal cost share and consultation regarding HTRW issues, the addendum does not summarize the full coordination effort with PA DEP. However, PA DEP provided a letter dated November 14, 2005 indicating their involvement in the feasibility study, their agreement with the resulting report, and their support for a flood damage reduction project. Since this letter will be part of the documentation forwarded with the Report of the Chief of Engineers, no further action is necessary. **This issue is resolved.**

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**6. Comment 3f – Ecosystem Restoration Cost Criteria.** Page 3-28 states that floodplain acquisition costs "*would not satisfy Administration & OMB guidelines for identifying priority restoration projects.*" This reference is inappropriate since the guidelines are informal. It would be more appropriate to simply state that the costs relative to the outputs would be relatively expensive. The statement should be deleted from the report before it is forwarded to ASA(CW).

**District Response.** Why? If these are valid, yet informal guidelines used at that level and beyond for sound investments, dumbing the discussion down would yield no benefit and may in fact show that the Corps may not prescribe to developing budgetary processes. We may be lauded for their application but we doubt we'd be assailed for it. The Draft May 2004 draft report and EIS had no such discussion. The presentation of the "Four Accounts" is not only a better construct but should also suffice.

**Discussion.** The cited statement is not referring to informal cost per acre criteria, therefore there is no issue.

**Required Action/Action Taken.** None.

**HQ Final Assessment.** This issue is resolved.

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**7. Comment 3g – Flood Warning System Upgrades.** The final sentence on page 3-30 in Section 3.6 indicates that each alternative includes upgrades to the existing flood warning system. Confirm whether this is true or not. If it is, then the Section 4 description of the recommended plan needs to describe this feature. It would also need to be explicitly identified in the Project Summary and the Report of the Chief of Engineers.

**District Response.** Why? This feature is required by regulation on all Corps flood protection projects. Why the need to change any document to reflect this? Furthermore, until PED phase, we will not know the nature and extent (placement locations) and technology to be used for this system.

**Discussion.** The significance is ensuring that each recommended features becomes authorized. If a feature is not explicitly described as part of the recommended plan, then there may be some question about whether it is authorized or not. The presentation of the recommended plan must clear describe each and every significant feature of the project. Including a revised presentation of the recommended plan in an addendum and identifying flood warning as a project feature in the report summary and the Chief's Report would resolve this issue.

**Required Action.** Describe the flood warning system in a revised presentation of the recommended plan in an addendum and mention it in the report summary and the Chief's Report.

**Action Taken.** The addendum dated December 2005 includes a paragraph describing the proposed flood warning system upgrades. The report summary mentions the flood warning system as a project component.

**HQ Assessment.** The flood warning system appears to lack the feasibility-level design, cost estimates and benefit analysis necessary to support including it in the recommended plan. Without such information, the flood warning system should be deleted from the recommended plan. What is the cost of the flood warning system? It is not in the MCACES estimate provided in the appendices. What features were assumed as the basis for estimating the construction and OMRR&R costs? Of those features, which are parts of the Bloomsburg component and which are parts of the Fernville component? There is no indication in the H&H appendix or the economics discussions that a flood warning system was considered in the determination of benefits. What is the estimated benefit of the flood warning system? Several statements on page 2 of the addendum indicate that feasibility level analyses were not conducted as required. Delete

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the phrase, “as required by Corps regulations” from the first sentence of the paragraph. Also delete the second, third and last sentences of the description since they are not accurate.

**Action Taken.** The addendum now indicates that a stage gage and rain gages will be installed in the Fishing Creek sub basin along with related communication equipment, at a cost of less than \$100,000. The equipment will support evacuation and gate closure operations in the recommended plan.

**HQ Final Assessment.** Since the flood warning equipment is needed to appropriately operate the closure structures, it is not a separable element and does not require incremental justification. The equipment cost is relatively minor. **This issue is resolved.**

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**8. Comment 3h – Monitoring.** Page 3 in the Planning Appendix says monitoring will be part of the recommended mitigation plan. This aspect needs to be described in Section 4 of the main report and included as a separate line item in the cost estimate summary tables. It also needs to be mentioned in the Summary Report and the Report of the Chief of Engineers. Without this information the project description is incomplete.

**District Response.** We disagree that this is incomplete. The \$1.8 million dollars is a more than adequate line item for the developing mitigation plan. The regulations prescribe a mandatory cap for the monitoring budget. Our hope is to not need a monitoring plan at all but to wind up with a self sustaining wetlands system. The fish blockage project should prove itself with the first spring migration. We proposed to change the project summary report to reflect compliance with budgetary policy regarding monitoring and adaptive management costs on CW projects.

**Discussion.** HQUSACE did not say the plan or the cost estimate is incomplete. It is the presentation that needs improvement. HQUSACE concluded that there is intent to recommend monitoring as either a construction or OMRR&R activity, or both. The District said it is a construction item only – not OMRR&R. HQUSACE indicated that the feature must be presented in a manner to ensure it is understood and clearly authorized. Federal participation in monitoring has frequently been questioned in processing reports to the Congress. As a result, reports need to be clear about the scope of recommended monitoring. It appears that this can most easily be achieved by presenting the proposed monitoring in the description of the recommended plan and the summary cost estimate in an addendum, and include it in the report summary and the Chief’s Report. It should also be included as a line item in a summary cost table.

**Required Action.** Describe the proposed monitoring effort in the description of the recommended plan in an addendum and as a line item in the summary cost estimate. List it as a project feature in the report summary and the Chief’s Report.

**Action Taken.** The addendum dated December 2005 and the updated report summary describe the monitoring effort and the estimated cost of monitoring. No monitoring is proposed beyond the construction phase. The Chief's Report will include the monitoring a feature of the mitigation plan.

**HQ Final Assessment. This issue is resolved.**

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**9. Comment 3i – OMRR&R.** The OMRR&R activities should be described in the main report. The label in Table 4-2 implies that restoration, rehabilitation and repair costs might not be included. Are the sandbag (flood fight) requirements and flood warning system requirements included? Without this information the project description is incomplete.

**District Response.** The description are for the more costly aspects of OMRR&R. The District is checking the MCACES in Appendix F for further detail.

**Discussion.** The District is continuing to confirm the completeness of the OMRR&R estimate in regards to the projected repair, replacement and rehabilitation needs. It also needs to include the costs of flood fight efforts (sand bagging). A short paragraph is needed in the presentation of the recommended plan that states the types of OMRR&R activities, such as annual mowing, replacement of mechanical equipment every 20 years, monitoring, etc. This can be achieved by describing the OMRR&R in the description of the recommended plan in an addendum.

**Required Action.** Confirm the OMRR&R estimate includes the projected repair, replacement and rehabilitation needs, including the costs of flood fighting (sand bagging). Include a paragraph in the recommended plan (the addendum) that states the types of anticipated OMRR&R activities.

**Action Taken.** The addendum dated December 2005 and the updated report summary describe the anticipated OMRR&R.

**HQ Final Assessment. This issue is resolved.**

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**10. Comment 3j – Study Completeness.** There are a number of statements in the report that may cause higher authority (OMB) to conclude that we have not completed the feasibility phase and that the cost estimate may be inadequate. OMB has previously returned reports after concluding that the supporting analyses were incomplete. Page *iii* states that the Sponsor may request a potential levee extension and/or design changes during PED. The report needs to demonstrate that these potential changes would not require additional authority and would not increase the cost of the project. It is not clear that additional authority would not be necessary to extend the levee. Also, page 7 of the Engineering Appendix, Attachment B – Civil Engineering,



states that foundation conditions are unknown in Fernville and portions of Bloomsburg. Page C-8 of the Engineering Appendix, Attachment C – Geotechnical Engineering, says, “*No subsurface exploration has been performed in Fernville*” and “*A large difference in foundation conditions in Fernville compared, to Bloomsburg will most likely cause changes to be made in the next phase of design.*” Page C-10 says, “*no borings were performed on the Fernville side of the river, the current design assumes that conditions on both sides of the river will be similar.*” Page C-14 says, “*Changes to this 35% level feasibility design will likely result from the additional information recovered*”. Page 4-6 of the main report says no detailed mapping is available for the Fernville reach. Page 4-9 of the main report says, “*The settlement caused by the levee/floodwall construction will occur during construction, thus the need to overbuild the levee project due to long-term settlement concerns has not been determined as necessary at this time*”. Does mean we don’t but should know the settlement amount at this time or that we’ve determined that we don’t need to overbuild? Page 4-9 identifies a lack of detailed explorations in Fernville. Page 5-34 says, “*Both the wetland and the fisheries mitigation projects are concepts at this time and may change during the PED phase*”.

**District Response.** These are all acceptable omissions due to lack of data. The borings on the Fernville side of Fishing Creek are currently anticipated to be similar to the boring across the creek in Bloomsburg. This is based on a site visit conducted by the geotechnical and H&H engineers on the project and is described in the main report and in the geotechnical Appendix. The lack of aerial photos in ONE part of Fernville, not the entire part of Fernville led to the lack of detailed topographic mapping (2 ft contours) in one section of the design. This does not jeopardize the feasibility of the project to be constructed and as the District responded in the response to comments on the draft and at the CWRB, appropriate contingencies on all engineering aspects has been applied to reflect the detail we have, so either the cost will be accurate or the cost will be less. It is highly unlikely the cost will be more.

**Discussion.** The issue is not about feasibility, but whether we’ve completed feasibility-level engineering analyses for all project features. Basing analyses on anything less than feasibility-level investigations makes the project cost estimate suspect. Higher authority returned a report in 2000 as incomplete because a cost estimate (\$700,000) for one feature (mitigation for induced flooding) was based on less than feasibility-level engineering analyses. The report was returned despite assurances that it was minor item within the overall project cost (~\$58 million), that the estimate was very conservative (later proved wrong), the contingencies were more than adequate, and that it would not affect the plan selection. There is a significant risk that this report may be returned as incomplete. The District is comfortable that they can successfully defend the analyses as feasibility-level, if questions are raised.

**Required Action/Action Taken.** None.

**HQ Final Assessment.** This issue is resolved.

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**11. Comment 3k – Items of Local Cooperation.** The items of local cooperation in the Section 9 Recommendations are incomplete. Item d incorrectly states that maintenance, repair, rehabilitation and replacement are necessary only for the “*economic life of the project*”. Such responsibilities are necessary for as long as the project remains authorized, as indicated in Section 6.2. This list in Section 9 should be deleted in lieu of the list in Section 6.2.

**District Response.** Section 9 is intentionally less prescriptive than the article in Section 6.2 since it is the recommendations page. The statement about “economic life of the project” is accurate since after that time, the Federal investment will be realized. Up to that point, O&MR,R,&R is required just to realize the investment return. We don’t agree that these need to be changed.

**Discussion.** There are two issues here. First, when Congress authorizes a project, it usually authorizes the project as recommended by the Chief of Engineers. The Chief in turn references the recommendations of the Division and/or District Engineers. By these references, the wording of the recommendations can have the force of law. By citing an abbreviated list of items of local cooperation in his/her recommendation, the District Engineer is specifically ignoring policy and prior law by modifying the complete list presented previously in the report. Such deviations require ASA(CW) approval before presentation to the public. However, since the Chiefs Report can modify the DE’s recommendation, we can correct this problem in the Chief’s Report. The second issue involves clarifying the Sponsor’s responsibilities. In accordance with the anticipated authorization, once the Sponsor signs the PCA, the Sponsor will be responsible for the OMRR&R for the life of the project. The life of the project only ends if and when Congress deauthorizes it. The economic life or period of analysis has absolutely no effect on the duration of the Sponsor’s responsibilities. This can also be addressed by including the correct items of local cooperation in the Chief’s Report. The District needs to make sure that the Sponsor is not surprised by this when presented with the PCA for execution.

**Required Action/Action Taken.** The District ensured that the Sponsor understands the actual requirements. The Chief’s Report will include the appropriate items of local cooperation.

**HQ Final Assessment. This issue is resolved.**

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**12. Comment 3l – Associated Costs.** Page 4-8 indicates that non-Federal interests will need to expend associated costs estimated at \$896,000 to clean HTRW sites. These costs should be included in Tables 4-1, 6-1 and 6-2 as additional (associated) non-Federal costs, and included in the final total amount for the non-Federal costs.

**District Response.** Disagree. Table 4-1 is the costs of the recommended plan as are Table 6-1 and 6-2. Furthermore, in the text immediately surrounding Table 6-1 and 6-2, the HTRW costs are identified as additional costs for the sponsor to consider prior to cost sharing the

project and that there is advanced crediting that can be done for these costs, should they actually be realized.

**Discussion.** This is a minor matter about presenting the information in the expected format for higher authority. If Tables 4-1, 6-1 and 6-2 are revised for other reasons in an addendum or other format, then the HTRW costs should be added. It should also be included in the report summary. We can provide the correct format.

**Required Action.** Include the HTRW costs as an additional line item below the project costs in the non-Federal column only in the revised Table 6-2 in the addendum. Add another line for the total in the non-Federal column only that sums the project and HTRW costs. Include the HTRW costs in the report summary.

**Action Taken.** Estimates of the non-Federal HTRW costs are presented in the addendum dated December 2005 and the updated report summary.

**HQ Assessment.** The last sentence of the third paragraph under the heading, “*HTRW Potential*”, in the report summary should be revised to state, “*This HTRW estimated cost would be a non-Federal responsibility that would be in addition to the cost-shared project recommended for authorization.*”

**Action Taken.** The HTRW text has been corrected.

**HQ Final Assessment.** This issue is resolved.

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**13. Comment 3m – Closure Structures and Ramps.** Page 4-1 says the there are eight closure structure sites with road raises at five of them. This is not entirely accurate and should be expanded to adequately describe the proposed plan in the executive summary and Section 4. The plan includes permanent closure structures at two sites, a ramp and permanent closure structure at one site, a ramp and a removable closure structure at one site, ramps only at three sites. The ramp only sites and another site involve the use of sandbags. The use of sandbags is not explained. Presumably the plan includes local flood fighting efforts, probably sandbags, to achieve levee closure during infrequent flood events. If this is the case, Section 4 should disclose the percent exceedence of the flood requiring flood fighting efforts at each closure site (“each” since they presumably differ somewhat). A closure structure is labeled as a “semi-permanent” feature at the Fairground Ramp site. The report should explain what that means. Also, the changes in road elevation accomplished by each ramp is a key dimension for understanding the scale of the features and should be disclosed in Section 4.

- Section 4.1.1.1 on page 4-2 identifies sandbags as a 3.3-foot-high structure.
- Section 4.1.1.4 on page 4-4 identifies ramps and a 3-foot-high closure structure, which is identified elsewhere as sandbags.
- Section 4.1.2.1 on page 4-4 identifies a ramp and a 2-foot-high closure structure at one location and a ramp and a 3-foot-high closure structure at a second location.

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- Section 4.1.3 on page 4-6 identifies a ramp and a 3-foot-high closure structure.
- Section 4.1.5 on page 4-6 identifies a ramp and a 4.8-foot-high closure structure at one location.
- Section 4.1.5 on page 4-7 identifies a ramp on Hemlock Street. Why isn't this ramp listed with the others on page *viii*? Are there other ramps that are not listed?

**District Response.** (The District inserted a number of edits into the comment to address specific points) It is unclear what resolution is necessary for this comment. In any event, it should be a report addendum item and not trigger report changes.

**Discussion.** This concern is essentially the same as the ones above about presenting the recommended plan with clarity. The various data and explanations provided in the District's response should be included in an addendum. The sandbag closures may be self evident to the PDT, but needs to be explained to the rest of the world. The report summary should be revised accordingly.

**Required Action.** Include the various data and explanations provided in the response in the description of the recommended plan in the addendum. Explain the sandbag closure plans in the description, including the events that would trigger sand bag work. Revise the report summary and Chief's Report accordingly.

**Action Taken.** The addendum dated December 2005 provides additional explanation about the closure and sand bag operations. The updated report summary shows a revised listing of closure.

**HQ Assessment.** Pages 3 and 4 of the addendum indicate that the recommended plan includes 6 closure structures, including 1 stop log structure, 1 jersey wall structure and 4 sandbag structures. It also indicates the plan includes 6 road raises/ramps. This does not agree with the list of features for the "*Recommended Plan*" on page 7 of the report summary. Further checking the Engineering Appendix together with the new information in the addendum indicates a complete list would include:

- Bloomsburg features include 7 closure structures and 5 road raises (ramps) for roads/railroad crossing the line of protection, including:
  - An 11-foot-high road raise and a 3-foot-high sandbag closure at Railroad Street;
  - A 12-foot-high stop log closure at Route 11 and West 2<sup>nd</sup> Street;
  - An 8.5-foot-high "Y"-shaped road raise and a 3-foot-high sandbag closure for the Fairground access and River Road;
  - An 8.5-foot-high road raise and a 2-foot-high sandbag closure for River Road at a second location;
  - A 13-foot-high road raise and a 3-foot-high jersey wall closure for the Fairground Parking Access;
  - An 11-foot-high miter gate across the railroad, and;
  - A 10-foot-high road raise and a 3-foot-high sandbag closure for West 11<sup>th</sup> Street.
- Fernville features include 1 closure structure and 2 road raises (ramps) for roads crossing the line of protection, including:
  - An 8-foot-high road raise and a 5-foot-high stop log closure for Bloom Street, and;
  - A 14.5-foot-high "Y"-shaped road raise for Hemlock and Drinker Streets.

To resolve this issue, the above list should be corrected as needed and inserted in the addendum to replace the list on page 3.

**Action Taken.** A corrected list of road raises and closure structures was added to the addendum and the report summary.

**HQ Final Assessment.** The revised adequately summarizes the road raises and closure features. **This issue is resolved.**

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**14. Comment 3n – Use of Other Federal Funds.** Section 6.5 Financial Analysis states, “*Per U.S. Army Corps of Engineers policy, each potential Federal grant would require a review to determine whether it qualifies as an acceptable matching contribution from the Sponsor*”. This is not correct and implies a mere judgment decision. Paragraph 9b of ER 1165-2-131 is more stringent and says, “*No Federal funds may be used to meet the local sponsor's share of project costs under this Agreement unless the expenditure of such funds is expressly authorized by statute as verified in writing by the granting agency.*” This requirement can be met if the Sponsor provides the District Commander with a letter from the Federal Agency that administers the Federal funds in question, approving use of the Federal funds to satisfy the items of local cooperation for the project. Also, note that this is Army or Administration policy, not “Corps of Engineers” policy. Also note that this applies only to the cost sharing and not to the CERCLA costs.

**District Response.** The last bulletized item in Section 6.2 clearly states what is embodied in ER 1165-2-131. In Section 6.5 the review that is required is accepting the letter, submitted by the sponsor, and that is no mere judgment call but is vital to ensuring that that last bullets of 6.2 and that ER 1165-2-131 has been followed. We are unclear what resolution is needed since this is a PCA activity and has little bearing on a successful report review.

**Discussion/Required Action/Action Taken.** The report as written is misleading. The requirement is for letters from the Federal agencies specifically approving the use of the funds as non-Federal cost-shares. The key is ensuring that local decision-makers understand the constraint on using other Federal funds. The District understands the requirement and has implemented it on other projects. They will ensure that the Sponsor understands the requirement. No other action is required.

**HQ Final Assessment.** **This issue is resolved.**

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**15. Comment 3o – Dam Removal Justification.** Page 5-34 says the incremental analysis for the off-site mitigation (dam removal) is located in the Planning Appendix. We can not find it in the appendix. Even if it is there, Section 5.15 should summarize the justification.

**District Response.** The dam removal justification is in text in the Planning Appendix, preceding the spreadsheets for the wetland CE/ICA and is commensurate with the disparity in the

increments. This is summarized in Section 5.15 in the end of the second to last paragraph of that Section. We can bolster this discussion in a report addendum. In the event of a reprinting being triggered by ASA(CW) and/or OMB review, we will make this change.

**Discussion.** Pages 4 and 5 in *Attachment C – Environmental* show costs up to \$200,000 but does not indicate any quantification of habitat outputs. Given the low cost of the feature, optimization is probably not necessary if the outputs are substantial. An estimate of outputs is needed to justify recommending the feature. The District indicated that the justification was provided narratively in the report. HQUSACE said that the justification is too difficult to find and should be summarized in the addendum. Cross references would be appropriate.

**Required Action.** Describe the dam removal mitigation feature outputs in the addendum.

**Action Taken.** Page 4 of the addendum dated December 2005 describes the outputs of the dam removal mitigation feature.

**HQ Final Assessment. This issue is resolved.**

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**16. Comment 3p – Report Summary – Federal Interest.** The statement of Federal interest is inadequate. To demonstrate sufficient Federal interest, the recommended plan must warrant Federal participation based its sufficient scale and outputs for flood damage reduction; must be technically feasible, economically justified, environmentally sustainable, compliant with Army policy, and acceptable to the public; and must have a legally and financially capable non-Federal sponsor that understands its responsibilities. While we believe the project meets these requirements, the statement of Federal interest in the report does not reflect this achievement.

**District Response.** We can make this change and would request more detailed review of this statement once the PM redrafts this paragraph.

**Discussion.** The review team will be available to help.

**Required Action.** Revise the statement of Federal interest in the report summary.

**Action Taken.** Page 10 of the report summary includes a revised and appropriate statement of Federal interest.

**HQ Final Assessment. This issue is resolved.**

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**17. Comment 3q – ITR Documentation.** The ITR Documentation includes a page and a half of comments and thirteen pages of certification signatures. Only the comments and

responses are displayed for three general issues. This does not provide an adequate basis to ascertain whether or not the ITR was either broad or deep enough. Also, the documentation does not indicate the actions taken to resolve all of the issues and does not indicate acceptance by the ITR reviewers. Without consensus on between the PDT and the ITR team, the issues can not be considered resolved.

**District Response.** There is no lack of consensus between the ITR reviewers and the PDT. Acceptance by the ITR reviewers is demonstrated via their signatures. Also, moving from draft to final, there were only three significant issues that developed and needed to be addressed. By contrast the PGM on this review that embodies the comments, responses, assessments, actions and resolutions is a particularly hefty audit trail for anyone questioning the rigor of the review of this rather traditional \$46 million CW project.

**Discussion.** The ITR documentation should probably have included the draft report ITR comments and resolution along with the final report information. As presented, ITR looks superficial. Appearances aside, nothing more needs to be done at this time.

**Required Action/Action Taken.** None.

**HQ Final Assessment.** This issue is resolved.

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**18. Comment 3r – Current Price Level.** March 2004 price level is used throughout the report (pages *ix, xviii, xix*, 3-40, 3-41, 3-42, 3-43, 3-44, 4-14, 4-15). The Summary/Syllabus, Section 4 – The Recommended Plan, and Section 6 – Plan Implementation estimates should all use the current price level and discount rate for the cost and benefit estimates for the recommended plan in accordance with paragraphs 2-4i, D-3d(2), and D-4b, and Exhibit G-1 of ER 1105-2-100. Since these estimates will also be needed for budget purposes, the current price level should be the latest October price level (October 2005) consistent with paragraph A-2.4.d, EC 11-2-187. The current discount rate is 5-1/8 percent. Also, Tables 6-1 and 6-2 should identify the price levels.

**District Response.** As mentioned in comment c (same title), which appears to discuss the same issue, we can agree to make the discount rate update in a report addendum and not as report revisions. Also, the fact that the discount rate is going down and not up should also obviate the need to reprint the entire documents to reflect this rather routine change in annual budget requirements and avoid the necessary delay in completing the phase. Further, it is unclear what benefit is gained by the work it would take to revisit the price levels and update them by a matter of 18 months, about the time that has elapsed between the draft report and DEIS being first sent to HQ and now. We share the overall concern of fresh data for the analysis, we believe that the effect on the project will be minor. Our lesson learned on this will be for all parts of the organization to be more attuned to the updating of the discount interest rate, the price

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levels and the MCACES estimate of the costs to ensure a balanced presentation for decision makers. We recommend this be a standing comment for all reports delivered to HQ for review.

**Discussion/Required Action/Action Taken/HQ Final Assessment.** HQUSACE concurs that this comment is redundant. See paragraph 3 above.

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**19. Comment 3s – Cost Estimate Significant Digits.** Cost and benefit estimates should be rounded to the nearest \$1000 (pages *iii*, *iv*, 4-14, 4-15, 6-6) to avoid implying accuracy that does not exist, particularly in light of the level of contingencies.

**District Response.** In future reports we will scrub this to avoid the appearance of implied accuracy. In the MCACES estimate as well as the Real Estate and the Economics Appendices, the data exists for all who may question the accuracy of these numbers. We can mention this as a note in the report addendum but don't wish to make these changes unless the review by the ASA(CW) and OMB warrant a revised report.

**Discussion.** The question of accuracy is not about correctly adding and otherwise working with the numbers. It is about the number of significant digits. When were using feasibility level investigations and analyses and contingencies of about 20 percent, using more than 2 or 3 significant digits is not warranted. The nearest \$1,000 is the current convention. Any revised displays in an addendum or the report should round the estimates to the nearest \$1,000. The estimates in the report addendum and the Chief's Report should also be rounded.

**Required Action.** Round all cost estimates in the addendum, report summary and Chief's Report to the nearest \$1,000.

**Action Taken.** The cost estimates in the addendum and report summary were rounded to the nearest \$1,000.

**HQ Final Assessment.** This issue is resolved.

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**20. Comment 3t – Guidance References.** Inappropriately references Army guidance contrary to normal decision document preparation (pages *v*, 1-6, 1-7, 2-13, 3-1, 3-15, 3-20, 3-22, 3-27, 3-45, 3-50, 4-9, 4-10, 6-5, 6-7). The guidance is not readily available to the public and the public generally does not care and sees it as bureaucratic.

**District Response.** Respectfully, we disagree wholeheartedly. Anyone with a computer at home or elsewhere can take these and Google up the regs and see what rules we follow. That's the whole point in citing these regs. Given our current operating environment and the transparency we are seeking as an organization, we'd rather have these in than out.



**Discussion.** HQUSACE noted that adversarial audiences generally have little regard for Army procedures and policies. It is generally more practical to simply present the methods and procedures based on their technical merits, rather than citing internal guidance. This helps minimize subjective arguments about agency judgment and focus issues on the actual pros and cons of the procedures. There is no requirement to avoid citing Army regulations however, there is no external audience for it either.

**Required Action/Action Taken.** None.

**HQ Final Assessment.** This issue is resolved.

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**21. Comment 3u – Benefit-to-Cost Ratios.** Benefit-to-cost ratios over 1.1 should be displayed to only one digit to the right of the decimal (pages ix, 3-44, 3-50, 4-14, 4-15).

**District Response.** Due to the closeness in the BCRs for the interior vs. the fringe alignments, the accuracy was necessary to decide which is the NED plan. This was addressed during the CWRB to the satisfaction of the Board. In the revised report summary and the report addendum it seems is necessary, we will use 1.4 as is in the draft Chief's report.

**Discussion.** Army policy specifically addresses the display of BCR's, and a citation can be provided if necessary. The plan selection is driven by the net benefits and not the BCR's. However, we do concur that this is a minor point. The BCR in the report summary and the Chief's report should include only one digit to the right. Any information revised for an addendum or insertion in the report should be similarly adjusted.

**Required Action.** Any presentations of the BCR in the addendum, report summary, and Chief's Report should be displayed with only one digit to the right of the decimal.

**Action Taken.** None.

**HQ Final Assessment.** Since this is a minor issue that does not alone warrant further changes to the documents, it is considered resolved.

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**22. Comment 3v – Flood Risk Depiction.** Report throughout uses "xx-year flood" or "xx-year level of protection" contrary to paragraph E-18c(1) which requires projects to be analyzed and described in terms of their expected performance, not in terms of levels of protection.

**District Response.** Concur. In the report addendum we will modify this statement throughout by stating that the project will protect the Town with a XXX % probability of protection from a 0.25% exceedence interval flood event, which is the 440 year event. Should the ASA(CW) and/ or OMB reviews trigger a rewrite and reprinting we will make this change

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through the report. On the Susquehanna River, the proposed protection has less than a 0.2% annual probability being overtopped. On Fishing Creek, the proposed protection has a 0.53% annual probability of being overtopped.

**Discussion.** Including the changes in an addendum, the report summary, and the Chief's Report will resolve this concern. Note that an event with a 0.25% exceedence interval would be a 400-year event, not 440-year.

**Required Action.** Any presentations of the level of flood protection in the addendum, report summary, and Chief's Report should use the percent exceedence nomenclature.

**Action Taken.** The paragraph titled "Flood Risk Depiction" was added to page 4 of the addendum.

**HQ Assessment.** The new paragraph titled "Flood Risk Depiction" on page 4 of the addendum does not match the District's response. It should be revised accordingly. Also, the information should be added to the report summary, which omitted it entirely.

**Action Taken.** The text in the paragraph titled "Flood Risk Depiction" was revised in the addendum to match the response and was added to the report summary.

**HQ Final Assessment.** The revisions adequately depict the flood risk. **This issue is resolved.**

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**23. Comment 3w – Cost Sharing.** The 5<sup>th</sup> sentence in Section 6.3 on page 6-4 is not accurate. The sponsor is responsible for their share of the total project costs, not the total project *first* costs. If the LERRD costs become high enough, the non-Federal cost share, which includes the LERRD costs and the five-percent minimum cash contribution, could exceed 35 percent.

**District Response.** This is an error of commission. The costs that are allocated in Tables 6-2 and 6-3 are for the correct project cost. This issue of LERRD costs is further addressed in the second and third paragraph of Section 6.3 and directly addresses the escalating LERRD cost risk. We can agree to clarify this in a report addendum and to make this change in the report should the ASA(CW) and OMB review result in a reprinting.

**Discussion.** This concern will be resolved with the correct items of local cooperation in the Chief's Report (see paragraph 11 above). Although it appears unlikely that the project costs would change enough to cause the non-Federal share to exceed 35 percent, it is important that the Sponsor understands the related requirements.

**Required Action/Action Taken.** See paragraph 11 above.

**HQ Final Assessment.** Subject to fulfilling the requirements of paragraph 11 above, **this issue is resolved.**

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**24. Comment 3x – Areas of Concerns.** Section 6-8 says areas of concerns are “currently being addressed” with the Sponsor. At this point in the study, the end of it, the concerns should either be fully resolved or have final resolution deferred to the PED or Construction phases. The text implies that there are ongoing, unresolved issues, which in turn, imply that this study is incomplete.

**District Response.** We have honestly disclosed the fact that, as with any large or small CW project, at the end of the feasibility phase, there are normally areas of concern. We can only assume this since this since the suggested format and TOC for most GI reports have this as a line item to address. By stating that we have these issues we are de facto deferring full resolution to PED. We are unclear what resolution needs to occur.

**Discussion.** A statement in the presentation about the lack of effect of the ongoing issues on the recommended plan would help. However, HQUSACE concurs that nothing further needs to be done.

**Required Action/Action Taken.** None.

**HQ Final Assessment.** **This issue is resolved.**

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**25. Comment 3y – Mitigation Plan Description.** The report summary should describe the mitigation plan features in accordance with page B-5 of EC 1105-2-405. Also, Section 5.15.1 on page 5-31 does not adequately describe the mitigation plan features and scale. It is not clear what the selected mitigation plan includes. As a minimum, the text should describe the area and improvements (including scale) needed to achieve the herbaceous wetland mitigation feature, the forested wetland mitigation feature, and the dam removal. Section 5.15.1 should also introduce or reference Tables 5-2 and 5-3.

**District Response.** The scale is addressed by the acreage needed for the project, 1.1 acres. We assume that the description in the paragraph describing the grading of the flat floodplain to retain surface water, the planting with a wetland seed mix and the planting of plant materials would have sufficed to give the reader a scale of the project. A more detailed description may be warranted. We proposed a more detailed narrative in a report addendum. If changes are requested to the report by ASA(CW) and OMB, these changes will be made in the body of the report at that time. The sentence of Section 5.14 (or really at the end of the side by side discussion of the array and the impacts for each retained alternative) can be moved to Section 5.15 if there is a reprinted report due to ASA(CW) and/or OMB comments. Otherwise, although it appears at an awkward place, this reference to Table 5-2 is in the appropriate place.

Table 5-3 and 5-4 are referenced in the text of the second paragraph of the mitigation Section. It is unclear if any further resolution is needed.

**Discussion.** Clarifying the description of the mitigation plan features in the presentation of the recommended plan in an addendum would resolve this issue. The addendum should summarize the impacts being mitigated, describe the mitigation plan features and function, and describe the ecosystem outputs for each mitigation feature. It was not clear in the discussion whether there are two or three distinct mitigation features. This should be resolved in the description of the mitigation features.

**Required Action.** Summarize the impacts being mitigated, describe the mitigation plan features and function, and describe the ecosystem outputs for each mitigation feature in the description of the recommended plan in the addendum. The report summary and the Chief's report should be consistent with the descriptions.

**Action Taken.** The required information was included in the addendum.

**HQ Assessment.** The required information was included in the addendum. A similar paragraph on page 8 of the report summary does cover most of the information. If that paragraph were combined with the addendum paragraphs titled "Wetland mitigation monitoring" and "Dam Removal Justification", and displayed in both the addendum and the report summary, then this comment and comments 3h and 3o above would all be neatly resolved.

**Action Taken.** The cited paragraphs were combined and presented in both documents.

**HQ Final Assessment.** This issue is resolved.

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**26. Comment 3z – Environmental Mitigation.** The discussion on Environmental Mitigation, Section 5.15, examines mitigation activities only for Alternative 4. Mitigation options should be considered for all alternatives, see 40 C.F.R. § 1502.14(f). As a more practical matter, Table 5-2 appears to offer an analysis of alternatives; however, these alternatives (numbered 1-4) do not appear to correspond to the rest of the section's discussion of alternatives (numbered 1, 4, 5, 8, and 9). It is also unclear in this table what Plans A, B, and C are.

**District Response.** Table 5-3 has alternative plans for satisfying the herbaceous wetland mitigation requirements of the alternatives warranting compensatory mitigation. Table 5-4 offers the same for forested wetlands impacts. These impacts are quite similar for either the fringe or the interior alignments that impact wetlands as discussed previously with HQ. The plan nomenclature in these tables is for tracking in the CE/IC analysis. The alternative schemes for mitigation planning has no correlation with the discussion of alternatives and their impacts to various resources in Table 5-2. We are unclear what resolution is necessary.

**Discussion.** Section 5-15 is one of the only parts of Chapter Five that does not break down an analysis of mitigation by the specified project alternatives. Why the difference in this one specific section? Even if impacts are similar, they should be explicitly stated as such in this section. Tables 5-2 and 5-3 need an explanation so that it is more clear to the reader what has been explained in the recent response ("The plan nomenclature in these tables is for tracking in the CE/IC analysis.")

**Required Action.** Include statements in the addendum of how the mitigation analyses presented in Section 5.15 apply to each of the action alternatives (Alternatives 4, 5, 8 and 9).

**Action Taken.** None.

**HQ Assessment.** Nothing in the Addendum indicates how the mitigation analyses presented in Section 5.15 apply to each of the action alternatives (Alternatives 4, 5, 8 and 9).

**Action Taken.** A statement was added to the Addendum indicating that the mitigation plans for the various alternatives are the same.

**HQ Final Assessment.** This issue is resolved.

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**27. Comment 3aa – HTRW.** Section 5 of Attachment E of the Engineering Appendix discusses HTRW issues. Several times the analysis assumes that there will be no HTRW regulation notwithstanding the presence of heavy metals, volatile organic compounds, pesticides, and underground storage tanks. Hazardous wastes are regulated under RCRA and CERCLA. DEP has regulatory authority to enforce RCRA. Attachment E cites Pennsylvania's Clean Fill Policy and PADEP's proposed General Permit for Beneficially Using Regulated Fill as a justification for using contaminated soils in this project. In order to avoid potential future regulatory action, it would be helpful to obtain a permit and/or document that PADEP will exempt the proposed use of fill from RCRA regulation. The PCA should clearly state that local sponsors shall be responsible for ensuring that the development and execution of Federal, state, and/or locally required HTRW response actions are accomplished at 100 percent non-federal costs under ER 1165-2-132, paragraph 6.b(1).

**District Response.** Concur, the District and/or eventual local sponsor will attain, in writing, the regulatory compliance required for this issue. The PCA will reflect guidance.

**Discussion.** The District indicated that the HTRW will be characterized further during the PED phase and the permits and/or exemptions will be then pursued as needed. HQUSACE concurred that this issue is resolved and no additional action is needed.

**Required Action/Action Taken.** None.

**HQ Final Assessment. This issue is resolved.**

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**28. Comment 3bb – ROD.** It will be necessary to develop a Record of Decision (ROD) for the EIS in the PED phase. A milestone should be included in the Section 6.4 Implementation Schedule for signing the ROD.

**District Response.** A draft ROD has been reviewed by the District's Counsel POC and is being revised to email to HQ. The District proposes placing the planned date in a small report addendum rather than modifying, and thereby needing to reprint, the report. If there is to be a future reprinting due to ASA(CW) and or OMB comment, this change will be made in the body of the report.

**Discussion.** The District is preparing a draft ROD for submittal to HQUSACE in the next couple of weeks. This issue is resolved and no additional action is necessary.

**Required Action/Action Taken.** None.

**HQ Final Assessment. This issue is resolved.**

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**29. Comment 3cc – Figure 2-3.** As a minor matter, it is difficult to understand the geographical context of Figure 2-3 (Wetlands in Bloomsburg). It would be helpful to include several reference points (such as Fishing Creek and other landmarks) to understand where the wetlands are located.

**District Response.** We concur this could be more clear. If this is a problem, we can modify the plate with landmarks and reference points but we'd rather not make that change just yet. This would involve more work than the benefit it would provide.

**Discussion.** HQUSACE suggested modifying the figure if it can be done easily, otherwise no further action is required.

**Required Action/Action Taken.** None.

**HQ Final Assessment. This issue is resolved.**

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**C. REVIEW COMMENTS ON THE MAY 2004 DRAFT REPORT AND DEIS.**

**1. Cost Estimate Displays.** In addition to the Fully Funded Cost Estimate in Table 6-1, a display of the estimated first costs is also needed in accordance with paragraph G-9e(2) of ER 1105-2-100. The price level should be shown in these tables.

**District Response.** Concur. Table 4-1, provided in the review version of the report provides a display of the estimated first costs in accordance with paragraph G-9e of ER 1105-2-100. However, the price level (March 2004) was missing from the table and has been added.

**HQ Assessment.** The response is adequate, provided the proposed revision is included in the draft report and DEIS.

**Required Action.** The draft report is to include a display of the estimated first costs in accordance with paragraph G-9e(2) of ER 1105-2-100. Project cost tables and discussions should show the price level used.

**Action Taken.** Tables 4-1 and 4-2 provide these costs at the end of Section 4.

**HQ Final Assessment. This issue is resolved.**

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**2. Project Life.** Page 3-41 mentions a “50-year project life.” Project lives end only when Congress deauthorizes them. Is there an intention to propose Congressional deauthorization at the end of 50 years? Specifying a limited project life implies that the benefits are temporary, which may affect budget priority when competing against projects that would provide benefits indefinitely. It appears that the cited “project life” actually meant “period of analysis”, and should be changed accordingly.

**District Response.** Concur. The text that cited “project life” was intended to mean “period of analysis,” and has been changed in the document.

**HQ Assessment.** The response is adequate, provided the proposed revision is included in the draft report and DEIS.

**Required Action.** The draft report is to replace the term “project life” with “period of analysis.”

**Action Taken.** The term “project life” was replaced with “period of analysis.”

**HQ Final Assessment. This issue is resolved.**

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**3. Project Economic Summary.** The “Adjustment for PL 91-646 Costs” in Table 4-2 on page 4-14 and Table 25 in the Economics Appendix should be described in the main report or appendix.

**District Response.** Concur. The following footnote has been added to the document (noted in Table 4-2) in order to describe the reason for the adjustment: “PL 91-646 costs include moving and related expenses for a person whose dwelling is acquired because of the project. Because the NED cost of replacement housing is to be based on replacement in kind, moving and related expenses are deducted from the overall cost estimate for economic evaluation purposes. PL 91-646 costs are, however, included in the fully funded cost estimate discussed later in this document.”

**HQ Assessment.** The response is adequate, provided the proposed revision is included in the draft report and DEIS.

**Required Action.** The draft report is to include the referenced footnote, or other appropriate discussion of the cost adjustment.

**Action Taken.** The footnote is on page 4-15.

**HQ Final Assessment. This issue is resolved.**

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**4. Implementation Schedule.** Page 6-8 states that the schedule is largely dependent upon whether the project is “funded” in WRDA 2004 or 2006. Funding is normally provided through appropriation acts, not authorization acts.

**District Response.** Concur, “funded” has been replaced with “authorized” in Section 6 and in the Syllabus.

**HQ Assessment.** The response is adequate, provided the proposed revision is included in the draft report and DEIS.

**Required Action.** The draft report is to include the referenced terminology change.

**Action Taken.** Section 6.4 now states that the implementation schedule is largely dependent on when the project is authorized.

**HQ Final Assessment. This issue is resolved.**

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**5. Grant Funds.** The sponsor’s financing plan letter dated 14 April 2004 indicates that Federal grants may be applied to the non-Federal cost share. Letters will be needed from any



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source federal agency(s) stating that they do not object to use of the grants to fund the non-Federal cost share.

**District Response.** Concur. At the appropriate time, these will be requested from these agencies by the local sponsor.

**HQ Assessment.** The response is adequate. The letters will need to accompany the design agreement submittal package in accordance with the Design Agreement Checklist.

**Required Action.** To facilitate review of the final document through the Washington Level Review process, Section 6.5 Financial Analysis should be expanded to fully disclose the non-Federal sponsor's intent to use Federal grants to meet their non-Federal cost share. In addition the appropriate letters from the granting agencies should be included in the submittal package for the design agreement in accordance with the Design Agreement Checklist.

**Action Taken.** Section 6.5 now states the Sponsor's intent to seek Federal grants to fulfill the non-Federal cash contribution requirement and indicates that each grant would be reviewed for acceptability.

**HQ Final Assessment.** This issue is resolved.

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**6. USFWS Coordination.** Neither a Planning Aid Letter (PAL) nor a draft Coordination Act Report (CAR) is in the draft report. What is the status of the CAR and will a PAL or draft CAR be included in the draft report to be released for public review?

**District Response.** Neither a CAR nor a PAL will be in the FR/EIS. As discussed in the emailed letter from the Service to the District (subsequently discussed with HQUSACE staff), the USFWS Field Office has participated in several field reviews of this project and given the limited trust resources present in the project area, has decided to address FWCA comments and suggestions via the review of the DEIS once it is circulated.

**HQ Assessment.** This issue is partially resolved. The proposed approach is acceptable if the District includes correspondence from the USFWS that in compliance with the Fish and Wildlife Coordination Act they have participated in the planning process and development of the mitigation measures. The USFWS correspondence should also state whether they are satisfied with their level of involvement to date and that they will provide a Coordination Act Report based on the content of the Draft Feasibility Report and the Draft EIS. Documentation of the USFWS participation and position should be included in the Draft Report and DEIS, and this documentation should come from the USFWS, not just our understanding of their position.

**Discussion.** CENAB referenced the letter from the USFWS Field Office, previously forwarded to HQUSACE. All agreed the letter will be included in the draft report.

**Required Action.** A letter from the USFWS has been received by the district stating their views on the coordination. This letter will be included in the draft report as supporting documentation. In addition, the draft report text will describe the participation and views of the USFWS.

**Action Taken.** In a letter dated 21 October 2004, the USFWS declined the opportunity to prepare a Fish and Wildlife Coordination Act Report stated an intent to comment on the draft EIS. The letter is presented towards the end of the Planning Appendix in Volume 2. In a letter dated 14 June 2005, the USFWS stated that no significant adverse impacts on fish and wildlife are expected, and that it has no objection to the project from a fish and wildlife standpoint.

**HQ Assessment.** The report needs to summarize the Fish and Wildlife Coordination Act coordination with the USFWS and explain the lack of a draft or final CAR. The lack of any explanation raises uncertainty about the level of cooperation with the USFWS and whether USFWS views were seriously considered during plan formulation. Though coordination problems and/or limited agency resources might have affected the USFWS responsiveness initially, something should have been worked out in subsequent years to at least provide a draft CAR for the FEIS. Regional and/or national level intervention should have been considered once local efforts are exhausted.

**Discussion/Required Action/Action Taken.** The report was edited to summarize the Fish and Wildlife Coordination Act coordination with the USFWS and explain the lack of a draft or final CAR, before the final report/EIS was released for State and Agency Review and filed with the EPA.

**HQ Final Assessment.** The appropriate changes were made in the final report. **This issue is resolved.**

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**7. Cost Estimate Discrepancy.** The Total Project Cost (\$40,903,000) shown on Table 4-1 (p. 4-13), of the main report does not match the MCACES estimate (\$46,238,521). Also, a pricing date was not specified pertaining to the project costs stated on the table. This discrepancy should be verified and corrected.

**District Response.** Non-Concur. There is no discrepancy. The total project cost shown on Table 4-1 matches the MCACES estimate. The difference is that the total project cost is not escalated to the midpoint of construction, as is the fully funded cost shown on Table 6-1 and the MCACES estimate. No changes to the document were made as a result of this comment.

**HQ Final Assessment.** **This issue is resolved.**

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**8. Contingency Application.** Costs for Account 01, Lands and Damages shown on the MCACES estimate do not match the amount shown on the real estate plan. It appears a contingency factor was applied twice to the real estate costs. This discrepancy should be verified and corrected.

**District Response.** The Real Estate Plan contingencies reflect various contingencies for several difference tasks under account 01. The Real Estate Plan uses the following contingencies: 10% for P.L. 91-646 residential and commercial relocation claim payments; 25% for land payments; 15% for all other Account 01 line items. This results in a base Account 01 total of \$4,953,195 and a contingency total of \$1,030,321, for an overall contingency percentage of 20.8%. The MCACES estimate uses this 21% contingency average for all Account 01 line items. This generates a difference of \$9,850 between the MCACES and the Real Estate Plan totals (the MCACES Account 01 contingency total is 1% higher than the REP contingency total). The overall difference between the Real Estate Plan and the MCACES is less than 0.02%. The MCACES further applies escalation through the period of construction to the Account 01 base plus contingency amounts.

**HQ Final Assessment. This issue is resolved.**

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**9. Study Area Description.** Section 2 of the draft report provides a general description of the study area, but does not clearly delineate its boundaries or size. Biological resources are described within the project corridor; however, the project corridor is not defined. Study area, project corridor, and affected area are used in various sections of the report but are not adequately described and differentiated. Please provide additional descriptive information (e.g., boundaries, size, habitat acreages) and distinguish among these units.

**District Response.** Two new sentences were added to the start of Section 2 as follows: "The study area for this project includes the Town of Bloomsburg, Fernville, and Montour, Pennsylvania. Within the study area, the areal extent of lands that could have physical disturbance is considered the project area." The term "project corridor" was changed in the document to "project area."

**HQ Assessment/Required Action.** The response is adequate, provided the draft report includes the additional referenced descriptions and terminology change.

**Action Taken.** Section 2 includes the changes stated above.

**HQ Final Assessment. This issue is resolved.**

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**10. Environmental Effects.** The environmental effects of the No Action, Fringe Alignment, and Interior Alignment are presented in Section 5. Alternatives 4 (NED plan), 5, 8,

and 9 appear to comprise the final array of plans; but impacts associated with only two alignments are presented instead of the effects of the four alternatives. Obviously, each of these alternatives contains one of these alignments. However, a single hydraulic mitigation measure or a combination of hydraulic mitigation features is also incorporated into each of the four alternatives. It is unclear whether the hydraulic mitigation components could affect any of the significant resources. To comply with NEPA, describe and compare potential effects of the four alternative plans in the final array.

**District Response.** Concur. Each of the subsections within Section 5 has had subheadings and analysis for each of the Alternatives (1, 4, 5, 8, and 9) added. Each of these subheadings correlates with the Alternatives described in Section 3.

**HQ Assessment/Required Action.** The response is adequate, provided the proposed revision is included in the draft report and DEIS.

**Action Taken.** Section 5 includes subheadings and analysis for each of the Alternatives.

**HQ Final Assessment.** This issue is resolved.

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**11. Prime or Unique Farmland.** Section 5.1.2 indicates that 11.5 acres of prime or unique farmland would be converted to non-agricultural use. A Farmland Conversion Rating Form (AD 1006) should be completed and attached or appended to the report. Coordination with the Natural Resources Conservation Service should be documented in the report.

**District Response.** Concur. This rating form completion is currently being coordinated with the Columbia County SCD office.

**HQ Assessment/Required Action.** The response is adequate, provided the draft report includes appropriate descriptive narrative of the required coordination and supporting documentation in the form of a completed Form AD1006.

**Action Taken.** Section 5.1.2 mentions coordination with the NRCS and Form AD1006 is presented near the back of the Planning Appendix, Attachment B – Public Involvement. The District states that the NRCS has not responded despite coordination with the county NRCS prior to circulation of the draft. The agricultural producer who owns and farms the land has been an active participant in several public meetings as well as commenting on the draft report and EIS.

**HQ Final Assessment.** This issue is resolved.

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**12. Riparian Impacts.** According to Section 5.4.1, riparian vegetation would be impacted; but the extent (acreage) of the damage is not given. It is not clear whether some of the affected

riparian acreage is upland or whether part or all of the acreage is included in the impact estimate for wetlands. Please clarify.

**District Response.** Concur. Section 5.4.1 was revised as follows:

**“5.4.1 Vegetation**

***Alternative 1: No Action***

*Taking no action to protect Bloomsburg from flooding would mean the environment would continue to experience inundation from predictable flood events. Experience has shown that vast quantities of debris (e.g., construction materials, vehicles, mobile homes, etc.) and sediment must be removed from the floodplain after a flooding event. The physical removal of the debris from the floodplain typically involves large, heavy equipment and requires the removal of trees and vegetation to provide points of ingress and egress for cleanup equipment. Failing to protect Bloomsburg from flooding could indirectly result in adverse effects to vegetation in the riparian corridor due to clean up after flood events.*

***Alternative 4: Fringe Alignment and Fernville Levee Hydraulic Mitigation***

*The vast majority of the Alternative 4 footprint is in areas of mowed grass for residential yards, Fairgrounds parking, roadside maintained areas, or the edges of cultivated fields. Wherever possible, alignment positioning has attempted to avoid areas with woody vegetation and to leave trees in place along the banks of Fishing Creek (with the requirement that any remaining trees must not be on the levee itself, and must not pose a potential hazard to undermining of the levee or associated features).*

*Implementation of the Alternative 4 would require the placement of riprap along approximately 3,000 linear feet of stream bank from the stream invert to the top of protection. Within the area where riprap is placed, vegetation would be removed and the habitat would be permanently covered and maintained free of woody vegetation over approximately two acres (3,000 linear feet x 30 foot width). The vegetation along Fishing Creek that would be affected is not wetlands. Within one growing season, vegetation would be expected to re-colonize the interstitial spaces in the placed rock and provide a low quality habitat dominated by disturbance-tolerant species. The O&M plan would prescribe the removal of woody vegetation from the levee/floodwall system, including the riprap, but herbaceous species would remain. Areas of Fishing Creek that do not require armoring would remain undisturbed.*

***Alternative 5: Fringe Alignment and Non-Structural Hydraulic Mitigation***

*Implementation of Alternative 5 would be similar to Alternative 4 with the exception of the need to provide riprap along the right descending bank of Fishing Creek for Fernville. Because the Fernville hydraulic mitigation would be non-structural, there would no longer be the need to riprap the stream bank resulting in 1.2 fewer acres of vegetation removed as described in Alternative 4. The Bloomsburg (left descending) bank would continue to need protection, as described in Alternative 4, resulting in approximately .8 acres of habitat being removed for the placement of riprap.*

***Alternative 8: Interior Alignment and Fernville Levee Hydraulic Mitigation***

*Effects to vegetation from implementing Alternative 8 would be substantially the same as Alternatives 4 and 5 with the exception that the shorter length of protection and associated riprap along Fishing Creek would result in less disturbance to vegetation. Under Alternative 8, approximately 2,400 linear feet of stream bank would be riprap armored from the top of protection to the stream invert. Within the area where riprap is placed, vegetation would be removed and the habitat would be permanently covered and maintained free of woody vegetation over approximately 1.6 acres (2,400 linear feet x 30 foot width). This is a reduction of approximately 600 linear feet of stream bank that would require riprap when compared to the Alternative 4. The shorter reach to be affected is because the Interior Alignment turns away from Fishing Creek and crosses Route 11 approximately 600 feet upstream of where the alignment under Alternatives 4 and 5 would turn.*

***Alternative 9: Interior Alignment and Non-Structural Hydraulic Mitigation***

*Implementation of Alternative 9 would be similar to Alternative 5 with the exception of the need to provide riprap along the right descending bank of Fishing Creek for Fernville. Because the Fernville hydraulic mitigation would be non-structural, there would no longer be the need to riprap the stream bank resulting in 1.2 fewer acres of vegetation removed as described in Alternative 5. The Bloomsburg (left descending) bank would continue to need protection, as described in Alternative 8, resulting in approximately 0.4 acres of habitat being removed for the placement of riprap (600 linear feet of riprap x 30 foot width)."*

**HQ Assessment/Required Action.** The response is adequate, provided the proposed revision is included in the draft report and DEIS.

**Action Taken.** The above text is presented in Section 5.4.1.

**HQ Final Assessment.** This issue is resolved.

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**13. Pile Driver Impacts.** Section 5.10 states that structural and architectural damage can result from pile driving. However, the number of structures subject to damage from vibration and/or soil displacement and the proposed mitigation are not given. This information should be provided.

**District Response.** The H-Piles for the wall will be pre-drilled (there will be some noise from the drilling process, but not anything close to the potential pile driving impacts) and no vibrating hammers will be used. In addition, the closure structures will not be on piles as currently designed. The following sentence was added to paragraph 2 under Alternative 4: "Current designs do not call for the need to utilize pile driving for construction of the flood control measures. If used, the number of structures that could be subject to damage and the proposed mitigation plans would be developed."

**HQ Assessment/Required Action.** The response is adequate, provided the proposed revision is included in the draft report and DEIS.

**Action Taken.** Page 5-22 includes an improved version of the text proposed above.

**HQ Final Assessment.** This issue is resolved.

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**14. Traffic Impacts.** Potential impacts to traffic are discussed in Section 5.11. However, no information regarding flooding impacts to traffic is given under the No Action alternative. The project would primarily have temporary effects on traffic, but it could result in long-term reductions in traffic impacts associated with flooding. These potential benefits, if any, should be disclosed. Also, traffic effects associated with the interior alignment are reported to be less than the fringe alignment. However, it appears that the interior alignment is in closer proximity to businesses and residences and could adversely affect traffic because of its location. Please clarify.

**District Response.** The text for Section 5.11, No Action, has been revised as follows:

***“Alternative 1: No Action***

*Under the No Action alternative there would be no changes to the current traffic patterns or volumes due to constructing a flood reduction measure. However, failing to provide flood protection would predictably lead to substantial traffic effects during and after flooding. Currently flooding in Bloomsburg and Fernville makes roads impassable during high water and after floodwaters recede until sediments and debris are cleaned up.”*

Second part of comment questions the basis for the traffic effects being less for the interior alignment than the fringe. As stated in the last sentence of the text (see below), traffic effects for the interior alignment are assumed to be less because of the shorter alignment (i.e., less material needed) and the shorter duration of construction. Also, please see Section 5.10 of the DEIS which references the noise intensification of 3 decibels increase from the interior alignment construction. Sections 5.10 and 5.11 need to be read together to clarify the comment.

***“Alternative 8: Interior Alignment and Fernville Levee Hydraulic Mitigation***

*An MCACES cost estimate and material quantities are not available for the actions described for Alternative 8 (Interior Alignment). The overall length of the alignment is approximately 3,000 feet shorter than the Fringe Alignment. The effects on traffic from construction of the Interior Alignment would be lower as a result of less material being transported to and from the site and from a slight reduction in construction duration (i.e., completing construction of the Interior Alignment sooner than the Fringe Alignment).”*

**HQ Assessment/Required Action.** The response is adequate, provided the proposed revision is included in the draft report and DEIS.

**Action Taken.** Section 5.11 includes the proposed text presented above.

**HQ Final Assessment.** This issue is resolved.

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**15. Environmental Justice.** Section 5.13 discusses project compliance with EO 12898 (Environmental Justice). It states that the minority population in the affected area does not comprise more than 50% of the total population and that the minority population is not greater in the affected area than elsewhere in the study area. It appears that the area most heavily impacted by project-induced flooding would be along Fishing Creek, in and around Montour (see sections 4.5.1 and 5.14). The recommended plan is expected to require fee simple acquisition of a number of residences, including at least 29 mobile homes, in this area. (Note – There are apparent discrepancies between sections 4.5.1 and 5.14 in the number of structures that would have to be acquired.) Please summarize the demographics of this area. If this area exceeds minority and poverty thresholds, appropriate efforts should have been made to solicit input and participation in project planning. Also, potential impacts to the minority and/or low-income population, along with mitigation measures, would need to be thoroughly assessed and disclosed.

**District Response.** Concur. The following text change has been made to Section 5.13: Replace in paragraph 2: “*The minority population within the affected area does not exceed 50 percent, and the minority population is not higher in the affected area than in other areas of the community.*” with “*The population within the Town of Bloomsburg is 94.4 percent white, 2.6 percent black or African American, and 1.7 percent Hispanic or Latino. Census block-level data (U.S. Bureau of the Census, 2004) for the affected areas were examined to determine whether the minority population in the affected area is meaningfully greater than the minority population percentage in the general population. The block-level data show that the population of the affected areas of Bloomsburg, Fernville, and Montour Township is 94.6 percent white, 96.5 percent white, and 97.9 percent white, respectively. Therefore, the minority population of the affected areas does not exceed 50 percent, and the minority population is not higher in the affected areas than in other areas of the community.*”

*Low-income populations are identified using statistical poverty thresholds from the Bureau of the Census Current Population Reports, Series P-60 on Income and Poverty (U. S. Bureau of the Census, 2000). The threshold for the 2000 census was an income of \$17,761 for a family of four (U.S. Bureau of the Census, 2000). Based on the 2000 Census, Bloomsburg has approximately 10.5 percent of families below the poverty level (U.S. Bureau of the Census, 2004). Census block-level data (U.S. Bureau of the Census, 2004) for the affected areas were examined to determine whether the population of families below the poverty level is meaningfully greater than the population of families below the poverty level in the general population. The block-level data show that the population of families below the poverty level in the affected areas*



*of Bloomsburg, Fernville, and Montour Township is 12.7 percent, 2.6 percent, and 7.8 percent, respectively. While the percent of families below the poverty level is higher for Bloomsburg at the Census block level than for the Town as a whole (12.7 percent versus 10.5 percent), the areas within Bloomsburg with the highest concentration of persons below the poverty level would not be within the potential project corridor (U.S. Bureau of the Census, 2004). Census block data for Fernville and Montour Township also show that and there would be no disproportionate effect to low-income populations.”*

**Non-Concur.** There are no discrepancies between Sections 4.5.1 and 5.14 in the number of structures that would have to be acquired. To clarify, eight fee simple acquisitions in Montour Township are planned—seven residences and one trailer park.

**HQ Assessment.** The issues are partially resolved. The analysis of the characteristics of the local population to be included in Section 5.13 is good and this part of the comment is resolved. The District response is correct that 4.5.1 and 5.14 do not disagree. However, the District should revise the presentation of the structures/residences to eliminate the appearance of conflict in the numbers. For example if both 4.5.1 and 5.14 say 7 permanent dwellings and a mobile home park currently including 29 mobile homes will be acquired greatly reduces the potential for misinterpretation.

Regarding the “Non-Concur” portion of the response, the second paragraph of Section 4.5.1 of the draft Report at page 4-11 seems to indicate that the mobile home park including 29 mobile homes located thereon will be acquired in fee simple. However, according to Section 9 of the Real Estate Plan (REP), 15 of the mobile homes will not be acquired but, rather, will be relocated. Thus, it would appear that a total of 21 structures would be acquired in Montour Township. Section 4.5.1 of the draft report should be clarified as to the number of structures, i.e. mobile homes, to be acquired. The second paragraph of Section 5.14 of the draft Report indicates that 18 residential and 3 commercial structures would need to be removed in Bloomsburg. The REP indicates that there would be 19 residential and 4 business relocations required in Bloomsburg. Section 5.14 of the draft Report and Section 9 of the REP should be reconciled as to the number of commercial and residential structures to be acquired in Bloomsburg. The District's response to HQUSACE Comment q indicates that the proposed project would require the permanent removal of an estimated 22 residences, 3 commercial structures, one county building and a mobile home park with 29 mobile homes. Section 9 of the REP indicates, that, overall, the proposed project would require the relocation of 27 residences, 4 businesses and the mobile home park with 29 mobile homes. The discrepancies in the numbers of residences and businesses affected should be reconciled.

**Discussion.** After further discussion of this issue, the vertical team agreed that wording related to the mobile home park relocations and acquisitions will be clarified and any discrepancies in the numbers of residences and businesses affected will be reconciled

**Required Action.** The draft report is to include appropriate clarification with regard to the number of households and businesses that will be displaced and the number of homes, businesses and mobile homes to be either acquired or relocated.

**Action Taken.** The Environmental Justice discussion is now presented in Section 5.9.1 and includes the text proposed above. The District noted that the clarifications can be best understood by realizing that the law pertaining to Real Estate actions (Uniform Act) has two working parts pertinent to the project: one controls the process for the acquisition of structures and one controls the relocations of occupants (residents) or businesses using that structure. There are 18 structures to be acquired in town, but 19 relocations since one structure is a duplex dwelling occupied by two residents. There is one other house that also has a business occupant so it has one acquisition but two relocation actions. The trailer park involves one acquisition for the business. Several trailers are permanently fixed in place and will need to be acquired and the occupants relocated. Several other trailers are temporary (relocations and no acquisition), unoccupied or in such poor condition that they can not be relocated. Due to the nature of the land use, it is anticipated that these numbers will vary between the end of the feasibility study and the beginning of actual real estate acquisition. The Real Estate Plan (REP) and Section 4.5 are consistent in the treatment of the 29 trailers in the trailer park. Currently 15 trailers would be relocated and 14 would not.

**HQ Final Assessment. This issue is resolved.**

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**16. Public Involvement.** Section 8.1 states that a public walking tour of Kinney Run, South Bloomsburg, and Fernville was conducted. Did this tour include the Montour area to allow residents to provide input into the study? This is pertinent based on the possible need to solicit input and participation in minority and poverty areas as discussed in the above comment on Environmental Justice.

**District Response.** Non-Concur. The walking tour to which the comment refers occurred in 2000. At that time, it was not known that hydraulic impacts would extend to Montour Township. However, when it became clear that Montour Township would be within the affected area, meetings were held to inform the stakeholders and solicit input. The table provided as part of Section 8 shows that meetings were held with Montour Township stakeholders on 10 April 2003 and 25 June 2003. No change will be made to the text as a result of this comment.

**HQ Final Assessment. This issue is resolved.**

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**17. Cover Sheet and Summary.** As acknowledged in section 1.5 of the draft integrated feasibility report and EIS, certain key elements of an EIS must be present in the integrated report. 40 CFR 1502.10 requires a Cover Sheet as described in 1502.11 and a Summary as described in

1502.12. The Syllabus presented does not meet these requirements. Failure to include the required information in the prescribed format may prolong the review process, as reviewers may need to contact the district for additional information. Add a Cover Sheet and Summary consistent with §1502.11 and 1502.12 prior to public review.

**District Response.** Concur. See paragraph 30 below for more public involvement response. Cover Sheet and Summary have been added as presented below:

**“Summary**

*This integrated feasibility report and environmental impact statement (FR/EIS) investigates the feasibility of alternative plans to address problems and opportunities associated with flood damage reduction along the Susquehanna River and Fishing Creek in the Town of Bloomsburg (Columbia County), Pennsylvania.*

*The purpose of the project is to reduce the impact of flooding from the Susquehanna River and Fishing Creek on the Town of Bloomsburg. The primary water resources problem along the Susquehanna River at Bloomsburg is recurrent flooding. Flood damages are attributable to overbank flooding from the Susquehanna River and to flooding along Fishing Creek, which is exacerbated by backwater flooding from the Susquehanna River. Past flood events have resulted in extensive damages to structures and their contents and have threatened public safety. In addition, floods have disrupted major transportation systems, requiring closure of roads, railroads, and the municipal airport. Extensive portions of the Bloomsburg study area are within the 500-year floodplain of the Susquehanna River and Fishing Creek. The 500-year floodplain includes approximately 525 residential structures, and 75 businesses and local government buildings.*

*The initial screening of flood damage reduction measures resulted in structural and nonstructural measures being carried forward for more detailed investigations to provide levee/floodwall systems along the right descending bank of the Susquehanna River to protect the eastern and western portions of Bloomsburg; and a levee/floodwall system along the left descending bank of Fishing Creek.*

*Based on the flooding history, the areas subject to inundation from the 100-year frequency flood, and local sponsor input, interior and fringe floodwater barrier alignments were evaluated as potential flood damage reduction measures in the Town of Bloomsburg. In addition to the structural protection for Fernville, nonstructural flood protection, consisting of a nearly complete residential buyout was also considered for Fernville.*

*The following alternative combination of measures was evaluated in detail:*

- Alternative 1: No Action,*
- Alternative 4: Fringe Alignment and Fernville Levee Hydraulic Mitigation,*
- Alternative 5: Fringe Alignment and Non-Structural Hydraulic Mitigation*
- Alternative 8: Interior Alignment and Fernville Levee Hydraulic Mitigation, and*

*Alternative 9: Interior Alignment and Non-Structural Hydraulic Mitigation.*

*Alternative 4, which includes the Fringe Alignment and a Fernville Levee for Hydraulic Mitigation, is the PREFERRED ALTERNATIVE. Alternative 4 consists of a system of earthen levees, mechanically stabilized earth (MSE) floodwalls, concrete floodwalls, railroad and road closure structures and roadway relocations to provide ramps over the line of protection, was identified as the preferred alternative. The proposed action would provide approximately 9,600 feet of full levee embankment in the Town of Bloomsburg and, for the purpose of mitigating for increased flooding, approximately 4,350 feet of full levee embankment in Fernville. In addition, the Alternative 4 would include fourteen drainage structures, and nine closure structures, six of which incorporate limited road raisings. Limited riprap will be used to protect the steep banks of Fishing Creek from bank crest to below the stream invert along the lower project reaches along Fishing Creek. The alignment of the line of protection was established based on physical, environmental, and economic criteria.*

**Issues and Concerns**

*Public involvement was conducted through the publishing of a Notice of Intent in the Federal Register and holding public meetings in Bloomsburg to receive comments. Additionally, coordination with resource agencies was conducted through agency coordination letters that solicited their input.*

*Except for the occasional transient species, no Federally listed endangered, threatened, or candidate species under U.S. Fish and Wildlife Service (USFWS) jurisdiction are known to exist in the project area (USFWS, 2000). Therefore, no Biological Assessment or further Section 7 consultation under the Endangered Species Act is required with the USFWS. In addition, according to the Pennsylvania Game Commission, no state listed endangered or threatened species of birds or mammals are known to exist within the project area and no State Game Lands are located close enough to the project site to anticipate any impacts (Pennsylvania Game Commission, 2002).*

*Coordination with the Pennsylvania Natural Diversity Inventory (PNDI) indicated that there are no known occurrences of plant species of special concern within the project area and no effects on endangered, threatened, or rare plant species would be anticipated from implementation of a flood damage reduction project (PNDI, 2002). The PAF&BC indicated in their species impact review (PAF&BC, 2002) that none of the fishes, amphibians, or reptiles listed as endangered or threatened is known to occur at or in the immediate vicinity of the project area. The potential effects of the proposed action have been coordinated with the Pennsylvania State Historic Preservation Officer (SHPO). Ongoing investigation and coordination with the SHPO would address any additional requirements to implement the current proposal.*

**Major Conclusions and Findings**

*Implementing Alternative 4 as the preferred flood damage reduction for the Town of Bloomsburg would provide the appropriate level of flood protection while minimizing the environmental*

*consequences. The information developed in the Draft EIS has led to alterations in project design, recommendation of mitigation measures, and an opportunity for public involvement in the decision-making process. It also has allowed the Corps to address compliance with other environmental laws as part of a single review process rather than through separate reviews, to reduce paperwork and ensure comprehensive compliance.*

*Protection of the environmental resources would be maintained wherever possible and economic benefits would be gained from the protection from flooding. Some of the proposed actions would extend into Fishing Creek. Therefore, in accordance with the Clean Water Act, a Section 404(b)(1) evaluation has been completed and is appended to this document. As per the Planning Guidance Notebook, the EIS will request an exemption from the necessity of a State Water Quality Certification under Section 401 of the Clean Water Act.*

### **Impact Analysis Summary**

*Detailed descriptions and evaluations are found in Section 5, Environmental Consequences, but the following list is provided in summary. Implementing the PREFERRED ALTERNATIVE (Alternative 4) would result in the following environmental effects:*

- There would be a temporary increase in traffic because of construction-related transportation.*
- There would be a temporary increase in noise resulting from construction.*
- Permanent, unavoidable adverse effects would occur to the visual resources. Views that currently include Fishing Creek from Bloomsburg or Fernville would be unavoidably obscured by the levee/floodwall system. Views from Fishing Creek (typically from recreational users) would be diminished, as would views from within the Fairgrounds property.*
- Construction of the levee/floodwall system would require the excavation and off-site disposal of approximately 4,500 cubic yards of HTRW materials. The occupational risks of HTRW exposure and human health risks during excavation, temporary storage and transportation would be unavoidable.*
- Approximately 11.5 acres of farmland designated as Prime Farmland or Additional Farmland of Statewide Importance would be permanently converted to non-agricultural use.*
- Approximately 0.69 acres of existing Fishing Creek stream bottom habitat would be manipulated and altered for the placing of riprap.*
- Approximately two acres of the vegetated Fishing Creek riparian area would be permanently stripped of vegetation, covered in riprap, and maintained free of woody vegetation.*
- Approximately 0.7 acres of wetlands are within the expected area of disturbance and construction would require that the 0.7 acres of wetlands be filled. These wetlands consist of approximately 0.2 acres of mixed palustrine forested and shrub-scrub wetlands and about 0.5 acres of palustrine emergent wetlands of anthropogenic origin.*
- The alignment of the flood protection under Alternative 4 would require the permanent removal of an estimated 22 residences, three commercial structures, one County building, and the moving of a trailer park. The taking of residential homes and business*

*structures within the levee/floodwall footprint, or for increased flooding mitigation, would be an unavoidable adverse effect on the community.”*

**HQ Assessment.** The response is partially adequate, provided the proposed revision is included in the draft report and DEIS. The response indicates the preferred alternative would involve 9 closure structures. However, the District response to HQUSACE Comment w indicates the recommended plan would have 5 closure structures. The discrepancy should be reconciled.

**Discussion.** After further discussion and clarification the vertical team agreed that the discrepancies in the number of closure structures will be reconciled.

**Required Action.** The draft report should include the required Cover Sheet and Summary as presented and the number of planned closure structures should be consistently presented throughout the report.

**Action Taken.** The cover sheet and summary are included in the report, with minor revisions. Eight closure structures are listed in the Pertinent Data Section of the report on page viii.

**HQ Final Assessment.** This issue is resolved.

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**18. Sections 2.13 and 5.13 - Environmental Justice.** Environmental Justice (EJ) should not be treated as a resource. EO 12898 requires implementation of a vital component of the overall public interface process that deals with a specific segment of the population. Failure to comply with EO 12898, or to document compliance, indicates inadequate scoping and public involvement. Recently, several projects have been delayed while the agency, sometimes under court orders, performs and/or documents this process. Further, it is consistent with the Environmental Operating Procedures to go beyond the letter of the EO and subsequent implementation guidance to look at actual impacted populations instead of at the demographics of whole towns or census tracts that may not reflect the impacted population. Present the demographic data included in these sections in related socioeconomic sections. EO 12898 requires the agency to actively seek out specified populations and if located in the project-affected area to proactively pursue the involvement of these populations. Present the plan for seeking and involving these populations in the Public Involvement section. Include a summarization of any issues or concerns raised by these groups and a brief description of how these concerns were addressed should be in the Summary required by 40 CFR 1502.12. Also, present the stage of compliance with the EO process in the Compliance discussions in Chapter 7 (per ER 1105-2-100, 4-1.a.(2)).

**District Response.** As requested, Environmental Justice discussions included in Sections 2.13 and 5.13 have been moved as a sub-heading under Sections 2.9 and 5.9, Socioeconomics, to

address the comment. Please see the response in paragraph 15 above for a description of text added to document the demographics and demonstrates the absence of any Environmental Justice issues. The data used to identify the presence of minority and low-income populations was obtained from Census block-level data (Section 5.9 only, since 2.9 is intended to convey conditions in the general planning setting) and showed that the populations contain an even lower proportion of minority persons than the general population at the Town of Bloomsburg level. In addition, dozens of visits were made to the affected area, and no concentrations of minority and/or low-income populations were identified. It may be necessary to include a plan for seeking and involving low income populations in the Public Involvement process while moving from the DEIS to the FEIS. Every local news outlet and other opportunities will be used to get the word out to all members of the public that the Corps will have a public hearing on the DEIS.

**HQ Assessment/Required Action.** The response is adequate, provided the proposed revision is included in the draft report/DEIS along with the last three sentences from the response.

**Action Taken.** The Environmental Justice presentation has been revised as indicated in paragraph 15 above.

**HQ Final Assessment.** This issue is resolved.

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**19. Section 2.16.2.** This section concludes that no significant changes are expected in the future for a number of resources. Looking only at short-term direct impacts this may be true. However, 40 CFR 1502.16 requires consideration of “Indirect effects and their significance” and the comparison includes at least the same period of evaluation as the economic evaluations. The NEPA evaluation must consider the full range of the human environment including the resources specifically listed in §122 of R&HA 1970. Typically, presentation of these indirect effects even in qualitative terms tends to support the need for a flood reduction project. In areas with recurring flooding, structures tend to become more degraded over time because money that could be used to make structural and aesthetic improvements is diverted for flood repairs. This in turn diminishes property values and local tax revenues (§122 of R&HA 1970 requires consideration of these resources). Recurring floods also cause businesses/industries to leave communities, another adverse impact to revenues and local employment. Recurring flooding also require expenditure of tax revenues for flood-fighting, clean-up, infrastructure repair and emergency responses. This diverts local revenues from infrastructure and recreation improvements from the whole area not just the flooded areas. The trend of general conditions and land use patterns in flood-prone areas is continuing degradation; conditions rarely remain constant. Aside from the requirements to address these effects of flooding on these resources, saying there no significant changes due to recurring flooding indicates the Corps does not understand the scope of the problem or the benefits. If recurring flooding has no adverse effects on the community, the non-Federal sponsor would not be seeking a flood-damage reduction project. The district’s

conclusion that no significant changes are expected in the future requires substantiation by supporting documentation, or this section needs to be rewritten to address the above considerations. Since this section is a summary of the information in Chapter 5 of the FR-EIS, several sections in Chapter 5 will also need to be changed to describe the indirect effects of continued recurring flooding in the Future No Action Condition.

**District Response.** Non-Concur. As stated in Section 2.15.2 (previously 2.16.2): Future Without Project Conditions, Study Area Conditions That Are Unlikely To Change, no significant changes are expected in the future for the physical setting (i.e., geology, physiography, topography, soils). It is also stated that no significant changes are anticipated for cultural and historic resources, air quality, noise, HTRW, aesthetics, and infrastructure. Significant changes due to recurring flooding are discussed in Section 2.15.1 (previously 2.16.1): Future Without Project Conditions, Flood Damages. This particular section conveys that the Corps does understand the scope of the problem and clearly states that recurring flooding has a distinct and dramatic adverse affect on the community. Section 2.15.2 will not be modified as a result of the comment. However, the following change has been made to Section 2.15.1:

Replace in paragraph 4: *“Damage to industrial facilities ripple through the economy when businesses are forced to close, lay-off workers, and cease production for several weeks.”* with, *“In areas with recurring flooding, homes tend to become more degraded over time because money that could be used for general improvements is used for flood repairs. Over time, the market value of real property diminishes and negatively impacts local tax revenues. Recurring flooding also requires the expenditure of local tax revenues for flood-fighting, clean-up, infrastructure repair and emergency response. This diverts local revenues from infrastructure and recreation improvements from all of Bloomsburg, not just the flooded areas. Damage to commercial and industrial facilities ripple through the economy when businesses are forced to close, lay-off workers, and cease production for several weeks. In the long-run, permanent tax and employment losses would occur if owners of commercial and industrial facilities are no longer willing to endure recurrent flooding.”*

**HQ Assessment.** This issue is resolved by inserting the revised Paragraph 4, with the following addition. The revised paragraph tells more about the adverse effects of recurring floods than the earlier version. However, the District should expand this discussion to consider the weeks of elevated dust levels following flood events, the elevated emissions and noise from heavy equipment used during cleanup, the impacts to WQ in the streams when sewage treatment plants and industrial sites are flooded, etc., compared to a controlled one-time event during construction of the project.

**Discussion.** After further discussions the vertical team agreed that the report discussions on adverse effects of recurring floods will be enhanced.

**Required Action.** The draft report should be modified to insert the revised Paragraph 4, as described above.



**Action Taken.** The revised text is included in the last paragraph of Section 2.15.1 on page 2-22.

**HQ Final Assessment. This issue is resolved.**

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**20. Chapter 3.** The Cost Effectiveness and Incremental Cost Analyses of mitigation measures are not presented. According to paragraph C-3.e.(8) of ER-1105-2-100, mitigation is a part of each alternative and the cost of mitigation must be included in cost of each alternative prior to NED analyses. The ER also requires these analyses to be displayed. Incremental cost analysis is to discover variation in costs, and to identify and describe the least cost plan. The cost of mitigation any given alternative may be sufficient to alter which alternative is the NED alternative. The District must clearly display the mitigation costs of each alternative in the final array and, at a minimum, reference where the ICA for the mitigation plans for each alternative is presented.

**District Response.** The CE/ICA process required by the ER would be run on the same concept plans for mitigation on both alignments. The wetland restoration proposed would be proposed for both alignments since this is what the team formulated in the field with the resource agencies. The District has been very proactive in discussing the alignments, the resources and the impacts with agencies both on the ground and in the office. This mitigation site selection process was relatively easy given the opportunities for restoration of resources in the immediate project area. The riverine ecosystem impacts from the riprapping and excavation in Fishing Creek is the similar in impact under either plan (only as 20% linear foot difference) and the necessary mitigation to offset the adverse impacts from either plan is the same. Similarly, the wetland impacts are similar under either plan (0.7 acres vs. 0.9 acres of the same wetland) and the mitigation concept for that impact is the same. This was discussed by the District NEPA lead and the HQ environmental lead in a conference call in January 2005

**HQ Assessment.** This issue is partially resolved. Including the explanation of essentially equal impacts is adequate to resolve the need for a separate mitigation plan for each alternative. However, ER 1105-2-100 requires use of CE/ICA to determine which of the proposed measures within a mitigation plan are justifiable. The proposed mitigation plan consists of several measures of different costs and varying ecological outputs. It is recognized that the resource management agencies helped develop the proposed plan and that they are in agreement with it, but the Federal responsibility is to insure each measure in the mitigation is also economically justifiable.

**Discussion.** The vertical team agreed that the Draft EIS/FR will include a mitigation plan for impacts to wetlands and Fishing Creek that clearly states that it is a draft. It will also state that a cost effectiveness/incremental cost analysis will be conducted following input from resource agencies and the general public on the DEIS. The MCACES estimates will use a reasonably high-cost alternative, so as to be conservative. Revised wording, prior to release of

the draft EIS/FR will be coordinated with HQUSACE. The District will include a CE/ICA in the Final EIS/FR as required by ER 1105-2-100, appendix C.

**Required Action.** The draft report should include an explanation that the essentially equal impacts results in the same general mitigation plans for different alternatives. Further, the draft report will be revised to describe the mitigation plan concepts and to indicate that details may change based on public and agency input. A detailed CE/ICA will be provided in the final report.

**Action Taken.** The draft report included language coordinated between CENAB and HQUSACE. For the final report, a detailed CE/ICA, commensurate with the level of impact and the needs for environmental mitigation, has been prepared and the conclusions placed in Section 5.15 on pages 5-31 and 5-33. Supporting information is included in the Planning Appendix.

**HQ Final Assessment. This issue is resolved.**

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**21. Section 3.6.1.** The floodplain evacuation nonstructural alternative should be more thoroughly described and sound reasons provided for why it is not in the final array of reasonable alternatives, 40 CFR 1502.14(a) says the EIS will rigorously explore and objectively evaluate all reasonable alternatives. It is further required that the EIS discuss reasons for eliminating alternatives that were eliminated from detailed study. Implementation costs alone is not an adequate reason to discard this alternative. Based primarily on Tables 3-7, 3-9, and 3-10 and the limited information on total evacuation of the 100-yr flood zone in Section 3.6.1, it appears nonstructural alternatives were not adequately considered. It is not clear that the cost of mitigation was adequately considered in the economic analyses (see previous comment). It appears that the average annual costs are within 10% of the NED, and this does not include any optimization of non-structural measures or the non-monetary values of returning hundreds of acres to native riparian and floodplain hardwood cover. Given the similarity of average annual costs, better flood damage reduction, failure to optimize the non-structural alternative and failure to consider the non-monetary ecosystem benefits; it is possible that the best alternative may not be selected. The district must either provide a data-based discussion of why an optimized non-structural alternative should be eliminated from the final array, or include an optimized non-structural alternative in the evaluation of the final array of alternatives.

**District Response.** Concur. Sound reasons for why the floodplain evacuation nonstructural alternative was eliminated were not provided in Section 3.6.1. However, average annual costs of a buyout program are not within 10 percent of the NED because the comment does not take into consideration the fact that commercial and industrial facility acquisition are not included in the \$80 million estimate. The text change shown below was made to address the comment.

After the following in paragraph 1, *“With about 350 structures in the 100-year floodplain, buyout and relocation costs would exceed \$80 million.”*, add, *“ Under certain circumstances, the buyout concept is a potentially viable flood protection measure, as demonstrated by buyouts implemented by Federal agencies (most notably the Federal Emergency Management Agency). If flood protection can be achieved without structural measures, the benefits of a buyout alternative are manifold. The floodplain can be returned closer to its natural state, abundant open space would become available and may preclude anthropogenic damage in the floodplain through public ownership of affected lands. Defining buyout alternatives for study should follow beneficial criteria, each of which has significant policy implications. To establish the criteria, it is important to define the goals of a buyout effort. While public expectations vary, any buyout effort should accomplish the following:*

- *public acquisition and removal of flood-prone structures,*
- *assembly of vacant parcels to preclude development,*
- *prohibitions against new structures in the floodplain or floodproofing and stormwater management in some limited cases,*
- *creation of recreation or natural wildlife areas and wetlands in appropriate areas,*
- *development of permanent public open space to provide new recreational opportunities,*
- *removal or adjustments to the public infrastructure to eliminate intrusions into the floodplains and to prevent interruption of essential services during floods, and*
- *enforcement of land use controls to prevent redevelopment in acquired areas and establishment of water management standards at un-acquired properties.*

*Mass buyouts would trigger social and economic impacts resulting from the necessary displacement of 350 households, the demolition of an equivalent number of buildings of all types, and the removal of tens of millions of dollars in property value. It is assumed that most local communities would not participate in a policy that displaces from 10 to 20 percent or more of its housing under a floodplain buyout plan. The economic impact of that action would be the permanent and lingering reduction in local revenues and a one time reduction in flood damages. Perhaps most significantly, it is highly unlikely that a floodplain buyout plan would meet present Federal National Economic Development policy for a finding of Federal interest. This is due primarily to insufficient benefit-cost ratios under mandated economic analysis procedures.”*

**HQ Assessment.** This issue is not resolved. The response does not address the opening sentence of the comment about describing the floodplain evacuation alternative more thoroughly. The last paragraph in the proposed insertion raises more questions about the analysis of nonstructural alternatives and is probably inappropriate, at least as currently written. The first and third sentences imply that our cost and NED impact analyses are incomplete. Is that correct? It would be more appropriate to state factually what is and isn't included in the NED analyses. If there other RED or local economic considerations, they can be summarized also. The issue about community participation may be moot when determining the NED Plan. If floodplain evacuation provides the greatest net NED benefits or similar net NED benefits at a lower cost, and is environmentally sustainable, then it is the NED Plan. If that is the case, but the

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community would rather do something else, then a Locally Preferred Plan should be considered (possibly requiring an exception from the Assistant Secretary of the Army (Civil Works)). If the last two sentences are accurate about lacking Federal interest and cost effectiveness, then the supporting analyses need to be presented. The response also does not address the part of the comment about optimizing the extent of buyouts.

**Discussion.** After additional discussion, the vertical team agreed that the floodplain evacuation nonstructural alternative and the discussion on optimizing the extent of buyouts will be addressed more thoroughly as requested.

**Required Action.** The District should revise the discussion of the non-structural plans to include an analysis sufficient that the readers can fully understand the reasoning (both technical and costs) why this alternative was not carried through the detailed analyses. The revised discussion should address the concerns identified above.

**Action Taken.** Section 3.6.1, beginning on page 3-26, explains in greater detail the reasons for not pursuing a buyout alternative any further.

**HQ Final Assessment.** This issue is resolved.

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**22. Section 3.9.** 40 CFR 1505.2 requires the NEPA Record of Decision to specify the environmentally preferable alternative (EPA). Chapter III of P&G also requires documentation of the EPA. This discussion must be included to comply with the P&G and as support for the ROD. The district must document the determination of the EPA in this alternative evaluation section. If component features of the EPA are included in the NED plan, this section should describe how the NED and EPA have been intermingled to produce a Recommended Plan.

**District Response.** Concur. New Section 5.18.4 as follows:

***“5.18.4 Environmentally Preferable Alternative***

*The Council on Environmental Quality (CEQ) regulations for implementing the NEPA require that the Record of Decision (ROD) specify “the alternative or alternatives which were considered to be environmentally preferable” (40 CFR 1505.2(b)). This alternative has generally been interpreted to be the alternative that will promote the national environmental policy as expressed in NEPA’s Section 101 (CEQ’s “Forty Most-Asked Questions,” 46 Federal Register, 18026, March 23, 1981). Ordinarily, this means the alternative that causes the least damage to the biological and physical environment; it also means the alternative that best protects, preserves, and enhances historic, cultural, and natural resources.*

*When possible, a Draft EIS should identify the environmentally preferable alternative from the range of alternatives considered. However, the environmentally preferable alternative must be identified in the Final EIS. At this time the Corps is not able to identify the environmentally*

*preferable alternative due to the lack of completed data on cultural and historic resources in the project area. The environmentally preferable alternative will be identified at the Final EIS stage.”*

**HQ Assessment.** This issue is not resolved. It appears the District suspects the missing cultural/historical information may have bearing on the costs of the alternatives and ultimately affect the NED analysis. This is a Draft Feasibility Report and DEIS, it is not expected that all details are 100 percent resolved. However, sufficient information about significant impacts to significant resources should be available to designate a Tentative Environmentally Preferred Alternative (TEPA) if sufficient data are available to support reasoned selection of a Tentatively Selected Alternative (TSA). If data essential to selection of the TEPA are not available, it is reasonable to assume data essential to selection of a TSA are not available. If either is true it is too early to circulate a DEIS to the public and decision makers. The option is to follow the requirements of 40 CFR 1502.22 for dealing with incomplete or unavailable information. Since the District is in the process of acquiring the needed information Section 1502.22(a) seems to apply, *“If the incomplete information relevant to reasonably foreseeable significant adverse impacts is essential to a reasoned choice among alternatives and the overall costs of obtaining it are not exorbitant, the agency shall include the information in the environmental impact statement.”* If the District intends to circulate draft documents before the Phase IB and Phase II are complete, then the Draft Feasibility Report and DEIS should include a summary of the information that is available, explain that it is somewhat incomplete but sufficient to make choose a TSA and a TEPA.

**Discussion.** With respect to the incomplete cultural resources investigations, the report will need to document the status of existing information and disclose what needs to be completed and any potential impact on the selection of a plan for implementation. The District will make a call as to whether they wish to release the draft documents with this incomplete analysis, realizing the potential for a need to reissue the documents for public review if significant impacts are found that may affect the identification of the recommended plan. Bases on the limited information and report discussions, a tentative environmentally preferred alternative will be identified in the Draft EIS/FR. Use of the word “tentative” will also be used in the selection of the preferred alternative.

**Required Action.** If the District intends to circulate draft documents before the Phase IB and Phase II cultural resources investigations are complete, then the Draft Feasibility Report and DEIS should include a summary of the information that is available, explain that it is somewhat incomplete but sufficient to make choose a TSA and a TEPA. Such plans should be identified in the report.

**Action Taken.** The draft report and EIS did identify the TSA and stated in Section 5.17.4, that due to the lack of completed data on the cultural and historic resources in the project area, the environmentally preferable alternative will be identified at the Final EIS stage after the public circulation of the draft report and EIS. Although cultural field work related to these

resources is still on-going, there remains no discernable difference between plans that would cause the team to identify anything other than the recommended plan as the environmentally preferable alternative. This is stated in the final report in Section 5.17.4 on page 5-38.

**HQ Assessment.** Section 5.17.4 needs to identify the Environmentally Preferable Alternative.

**Discussion/Required Action/Action Taken.** HQUSACE stated that the summary table comparing the impacts of the various alternatives should be the basis for identifying the Environmentally Preferable Alternative. The District said the differences among the alternatives are negligible. HQUSACE agreed with editing Section 5.17.4 to explain why an Environmentally Preferable Alternative is not selected. Section 5.17.4 was edited to state that there is no clear distinction among the alternatives, before the final report/EIS was released for State and Agency Review and filed with the EPA.

**HQ Final Assessment.** The revised Section 5.17.4 is adequate. **This issue is resolved.**

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**23. Chapter 4.** It is not clear which plan and alignment is recommended. Chapter 5 discusses the consequences of a Fringe Alignment and an Interior Alignment, but these terms are not used in the recommendation. Section 3.3.3(a) of P&G requires *“To the fullest extent possible, EQ evaluation and its documentation should be conducted and prepared concurrently and integrated with the analyses and documentation required by other review; coordination, and consultation requirements related to EQ evaluation, as required by the CEQ NEPA regulations”*. It is also not clear how consideration of environmental consequences has affected design of any of the alternatives or that environmental considerations entered in decision making. It appears all decisions were made based on technical and economic considerations and that the environmental considerations were added post-formulation to the basic plan as mitigation. This is not consistent with NEPA or Corps regulations and probably not consistent with what actually occurred. The District must clearly indicate which plan and alignment is recommended. The district must also concisely describe how considerations of environmental factors have influenced the design of the final alternatives.

**District Response.** Concur. The second sentence of Section 4 states that Alternative 4 is the recommended plan. The disconnect between Section 4 and the information presented in Section 5, in which the consequences of a Fringe Alignment and an Interior Alignment are discussed, has been rectified by a re-write of Section 5. This section now discusses the consequences of the alternatives by the same nomenclature used in Sections 3 and 4 (i.e., Alternative 1, Alternative 4, Alternative 5, Alternative 8, and Alternative 9).

Environmental considerations were not added post-formulation to the basic plan as mitigation, though the document is not clear on this point. Adverse environmental effects associated with the project were first avoided, then minimized, and finally, mitigated. The introduction to

Section 4 has been revised to more clearly state environmental considerations made during plan formulation. The following changes to the text have been made:

Replace the following in paragraph 1: *“The recommended plan consists of approximately 16,555 linear feet of levee/floodwall systems with fourteen drainage structures, limited road raisings, and four closure structures. The alignment of the line of protection was refined based on physical, environmental, and economic criteria. The optimal alignment was identified by:*

- *Avoiding and minimizing adverse effects on study area wetlands,*
- *Following high ground to the extent possible to minimize floodwall/levee costs, and*
- *Protecting flood-prone structures, which are located in high-density concentrations.”*

with, *“The recommended plan consists of approximately 17,000 linear feet of levee/floodwall systems with fourteen drainage structures, limited road raisings, and five closure structures. Significant considerations were made during the formulation process to avoid and minimize adverse affects to environmental resources. The levee alignment of Alternative 4 navigates around the boundaries of closed landfills to minimize the risk of surface water and groundwater contamination. The alignment is positioned such that it can be moved away from the landfill boundaries if the mapped boundaries do not coincide with the physical limits of the landfills. Designs for the Fishing Creek levee/floodwall system made during plan formulation included extensive stone riprap on both the left and right descending banks from the top of protection to the invert (bottom) of the stream channel. Stone riprap protection was to be installed for the entire length of the Fishing Creek levee/floodwall system to protect the stream banks from erosion and migration that would eventually undermine the system’s structural stability. It was determined that placing riprap along a 100-percent (8,000 linear feet) of both the right- and left-descending banks along the Fishing Creek levee/floodwall system would be particularly damaging to the Fishing Creek ecosystem. During later stages of plan formulation, the alignment was set back from the top of bank to eliminate the need for bank protection along the entire project. Additional site investigations identified only those areas especially vulnerable to erosion as needing to be armored. These areas include abutments for bridges, storm water outfalls, and areas where the design is confined with insufficient setbacks from the creek banks. The current design for the Fishing Creek levee/floodwall system included in Alternative 4 would result in approximately 3,000 linear feet of stream bank being riprap armored from the top of protection to the stream invert. This figure represents the total linear feet from both the left descending bank and the right descending bank, and is roughly 34 percent of the total linear feet (both banks) of the levee/floodwall system – a reduction of 66 percent from the initial designs. The interior alignment would have only slightly less impact to the creek (2400 linear feet of riprapped bank) and would have 0.9 acres of direct wetland impacts, versus 0.7 acres of direct wetland impacts for the fringe alignment. Other than the impacts to the aquatic ecosystems, there are no other substantial natural resource impacts from either alignment.*

*Additional criteria used to refine the line of protection alignment (for both the Fishing Creek and Susquehanna legs) were:*

- *to follow high ground to the extent possible to minimize floodwall/levee costs, and*
- *to protect flood-prone structures, which are located in high-density concentrations.”*

**HQ Assessment.** The response is adequate, provided the proposed revision is included in the draft report/DEIS.

**Required Action.** The draft report should include concise descriptions of how considerations of environmental factors have influenced the design of the final alternatives as discussed in the response above.

**Action Taken.** Text similar to the response above which describes how environmental factors influenced the design of the selected plan was added to Section 4 on page 4-1.

**HQ Final Assessment. This issue is resolved.**

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**24. Chapter 5 – Final Array Resource Discussion.** All alternatives in the final array (No Action, the Fringe Alignment and the Interior Alignment) should be given equal consideration in each significant resource discussion. These discussions are so unevenly presented that it appears the NEPA evaluation is justifying a predetermined preferred alternative and this is contrary to 40 CFR 1502.2(g) that says “Environmental impact statements shall serve as the means of assessing the environmental impact of proposed agency actions, rather than justifying decisions already made.” The appearance of a prejudiced NEPA evaluation is a frequently used basis for project delaying litigation, frequently leading to extensive court refereeing of a reevaluation. The district must balance the discussions of the alternatives in the final array basing discussion on analytical information and in proportion to the significance of the impacts to the resource.

**District Response.** The Fringe and the Interior alignments have substantially the same impacts to significant resources. The selection of the project to recommend then hinged on the NED analysis not on the resource impacts or tradeoffs. The riverine ecosystem impacts from the riprapping and excavation in Fishing Creek is the similar in impact under either plan. The fringe alignment impacts 3000 linear feet of stream and the interior impacts 2400 linear feet of stream and the necessary mitigation to offset the adverse impacts from either plan is the same. Similarly, the wetland impacts are similar under either plan (0.7 acres vs. 0.9 acres of the same wetland) and the mitigation concept for that impact is the same. Please also see response to comment t.

**HQ Assessment.** The response is adequate.

**Required Action/Action Taken.** See paragraph 20 above.

**HQ Final Assessment. This issue is resolved.**

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**25. Chapter 5 – Effects of Continued Flooding.** Sections 5.4, 5.6, 5.7, 5.8, 5.9, 5.10, 5.11, 5.12, 5.14, and 5.15 do not accurately describe the effects of continued recurring flooding in the



Future No Action Condition. These sections assume no project construction means no significant adverse effects upon the respective resource. However, repeated flooding has repeated and frequently cumulative adverse effects that are clearly more significant than the effects of a managed construction job or the resultant effects of the completed project. 40 CFR 1502.14 requires consideration of the alternative of no action in the comparison of alternatives and §1502.16 requires those comparisons to be based on the scientific and analytic information in the Environmental Consequences section, i.e., Chapter 5 of this report. This information should also support the basic planning principle that the selected plan must be demonstrably preferable to the No Action condition (ER 1105-2-100, 2-3.f.). Without accurate consideration of the Future No Action Condition the value of the FDR project does not consider the full scope of project benefits and the evaluation is very skewed towards economic considerations. The district should rewrite above listed sections to accurately reflect the Future No Action Condition. The district must also present this information in the comparison of alternatives required by 40 CFR 1502.14.

**District Response.** Concur. Each of the sections has been rewritten to reflect the future effects of the No Action alternative.

**HQ Assessment.** The response is adequate, provided the proposed revision is included in the draft report/DEIS.

**Required Action.** The draft report should include an appropriate rewrite as indicated in the response to reflect the Future No Action Condition. The district must also present this information in the comparison of alternatives required by 40 CFR 1502.14

**Action Taken.** Each subsection includes a more direct discussion of the impacts to resource categories by taking no action.

**HQ Assessment.** We still can not find a concise comparison of alternative impacts in the document. Chapter 4 has a nice summary of effects package about the Preferred Alternative, but there is no concise comparison. There is no good comparison of environmental impacts in Chapter 3. Such a comparison is the heart of an EIS. The 40 CFR 1502.14 requirement to compare the alternatives goes beyond the resource-by-resource discussion. This is a different perspective than the effects of the alternative on a given resource as found in the Consequences Section. This is a critical section of the EIS and in addition to the discussions of Affected Environment and the Environmental Consequences. A comparative table is a concise way to give “substantial treatment” and allow the reader to “evaluate their comparative merits.”

**Discussion/Required Action/Action Taken.** A concise comparison of the impacts of the alternatives in the final array must be added to the final report and FEIS prior to filing the FEIS with EPA. A table concisely comparing the impacts of the alternatives was added to the final report and FEIS prior to filing the FEIS with EPA.

**HQ Final Assessment. This issue is resolved.**

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**26. Section 5.4.2.** Each Alternative should include as much mitigation for wetlands by avoidance and minimization as practicable, and this effort should be supported by specific examples of how the most engineeringly ideal or least cost design has been altered to avoid and minimize adverse effects to the wetlands. If wetlands still must be damaged by the action alternatives this must be described, and additional mitigation described. It is not sufficient to promise unspecified mitigation. To comply with Section 3.3.3 (a) of P&G, the mitigation required must be determined so its cost can be included in the cost of the alternative (see paragraph 20). Failure to include specific mitigation measures could lead to misunderstandings with the State and Federal agencies with whom we must coordinate under the Fish and Wildlife Coordination Act, the Clean Water Act, and other statutes. Misunderstandings regarding wetland mitigation can cause coordination and permitting delays. The district must address direct construction affects and the indirect affects of isolating acres of riparian/wetland habitats from the stream system. Describe efforts and the cost of these efforts to avoid and minimize adverse effects to the wetlands, and describe specific mitigation measures to rectify the impact by repairing, rehabilitating, restoring, replacing or providing substitute resources for each alternative. This is also a good point to clearly state that the District is preparing this report in such a way that a Section 404(r) exemption from the Section 401 process will be pursued, but coordination with the state will assure that the project will meet all state water quality standards (ER 1105-2-100, C-6).

**District Response.** Non-Concur. As stated in Section 5.4.2, the alignments were chosen with consideration to minimize the effects to wetlands. Section 5.16.1 identifies the recommended mitigation for the Preferred Alternative and the costs for wetland mitigation have been accounted for as stated in Section 4.7. Pertaining to the 404 (r) exemption comment, the EIS will state that an exemption under that Section of the CWA will be pursued. We have been working with the Commonwealth already to ensure water quality standards will not be violated.

**HQ Assessment.** The issue is partially resolved. Including the information in the response to the comment in paragraph 20 resolves the need for different mitigation plans for the two construction alternatives. However, Section 5.4.2 should specify which wetlands and other significant areas have been avoided to reduce adverse effects of the project. This serves two purposes, it highlights a specific example of compliance with the Corps' Environmental Operating Principles, and it reduces any temptation during PED and Construction to realign project features through the previously avoided areas. If the avoided sites are not specifically designated there should be no expectation that they will be avoided to reduce construction costs.

**Discussion.** The vertical team agreed to include additional write-ups on avoiding and minimizing impacts which will be enhanced as requested. The basic concept is to fully tell the story so that the reader has a complete understanding of the process that went into development of alternatives.

**Required Action.** The actions specified for the comment in paragraph 20 will satisfy part of this comment. However, the report should also specify which wetlands and other significant areas have been avoided to reduce adverse effects of the project as discussed above.

**Action Taken.** Sections 4.1.4 and 4.1.5 mention the wetland impacts caused by those levee sections. Sections 5.4.2 and 5.15 further describe impacts to wetlands. Section 5.4.4 discusses impacts to the fish habitat in Fishing Creek.

**HQ Final Assessment. This issue is resolved.**

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**27. Section 5.16.1 – Wetlands Mitigation.** Section C-3.e.(1) of ER 1105-2-100, requires that “*project-caused adverse impacts to ecological resources have been avoided or minimized to the extent practicable, and that remaining, unavoidable impacts have been compensated to the extent justified. The recommended plan and the NED plan, if not one in the same, shall contain sufficient mitigation to ensure that either plan selected will not have more than negligible adverse impacts.*” According to this discussion and Section 5.4.2-Wetlands, the “wetlands” that will be filled do not appear to be of high quality and perhaps are not jurisdictional. Section 5.4.4-Fish, does not indicate any adverse impacts to the fishery resource requiring mitigation. To aggravate the justification issue, the described mitigation would adversely affect a historical structure that is likely eligible for the Federal Register. This would require mitigation of the historic structure. The adverse effects of the biological mitigation measures on the historical resources are not described in Section 5.7. Further, it is not clear if the historical dam to be breached is retaining a changed water table that supports anthropogenic wetlands. The described dam removal is not mitigation. Mitigation requires improving the ecological value of an area relative to its future No Action condition. If the Chesapeake Bay Fish Passage Task Group (CBFPTG) is already in the process of removing similar dams the future No Action scenario would be that the dam will be removed without Corps action, this means there is a no net difference between the with action and the No Action conditions. If the described mitigation is not justified, the Federal share of this project will be affected and a significant cultural resource would be unjustifiably damaged. The district must describe the evaluation methodology and reasoning to support more than 1:1 mitigation for 0.7—0.9 acre of mediocre wetlands. The district must describe the effects of dam removal on riparian wetlands dependent upon the hydraulic changes induced by the dam in §5.4. The district must describe the effects of the “biological mitigation” on the cultural resource in Section 5.7. The district must justify the trade-off of a significant cultural resource for a biological resource that will not be significantly impacted by the subject project. The district must justify why this breach is considered mitigation since removal of the dam by CBFPTG may be the No Action condition. The district must describe and provide the cost for both biological and cultural mitigation measures within the implementation costs of the respective Alternative Descriptions in Chapter 3 (see ER 1105-2-100, 2-4.k.(2)). Finally, the district must clearly present mitigation costs are considered in the project economic analysis.

**District Response.** Pertinent to existing resources, all of the waters of the U.S., including wetlands, in the project area are connected by surface water to interstate water bodies and are jurisdictional under the Clean Water Act. Also, there are no anthropogenic wetlands supported by the timber crib dam (Boone's dam) on lower Fishing Creek. Pertinent to mitigation concepts, the project team has visited the project area several times during the study with several environmental agencies not only to identify the resources and discuss impacts but also to formulate the potential mitigation requirements. Since there are relatively few resources in either project alignment and the resources are substantially the same in these alignment corridors, the mitigation needs and concept are the same. Therefore, in the MCACES estimate and in the NED analysis, the mitigation costs are the same, \$1.8 million. The current working estimate for the wetland restoration project is around \$50,000. Based on a review by the PA Fish and Boat Commission, the current working estimate for the dam notching project is about the same. The cost for ecosystem mitigation is found on Pages 6 and 15 of the MCACES.

Relative to the justification of these mitigation projects, these projects are the minimum that the agencies discussed with us in the field. The resource agencies have stated that these are the recommendations they would be making when they get the document to review and there was no reason not to incorporate these into the project report and EIS. The PDT concurred. Since the eventual cost of these items will most likely be significantly less than the placeholder in the MCACES and since the cost is the same for both project alignments, there was minimal analysis done beyond developing these concept plans with the resource agencies. Additional work and further refinement of the environmental mitigation plan will occur following the DEIS comment period.

The timber crib dam is a typical structure built to power a small mill in the late 1800's in this region. The Pennsylvania Fish and Boat Commission routinely removed structures of this type and has developed an agreement with the State Historic Preservation office relative to these type of projects. The programmatic effort by the members of the CBFPTG is not specific to any one fish blockage project but supports the efforts of all those who are pursuing the removal of such blockages to the movement of anadromous fish in the Bay watershed. Currently, no one is slated to notch or remove Boone's dam. Therefore, the likely future without project condition is for this structure to remain as an impediment to the movement of native aquatic species in Fishing Creek. Please also see response to the comment in paragraph 28 below.

**HQ Assessment.** This issue is not resolved. The information in the first two sentences of the response should be inserted in Section 5.4.2. Further, Section 5.4.2 must present a quality or function based analysis as the basis for the wetland mitigation proposed. Mitigation is not taking advantage of an opportunity and it is not restoration. Mitigation is to reduce the net adverse effects of an action on a resource.

Section 5.4.4 must present information from a quality or function based analysis that shows the project would have significant effects on the fishery resources that require any mitigation. Once

the need for mitigation is established, present the proposed mitigation measures. If breaching the dam is the best plan, it must be clear that breaching of the dam by others is not expected in the foreseeable future, i.e., the period of economic analysis. It is good to say the State is breaching historic structures for fisheries benefits all over Pennsylvania as this sets precedence for the practice. However, if there is some indication that this dam is scheduled for breaching in the next 20-25 years, then breaching the dam is part of the Future-Without Action Condition, not mitigation. If breaching this dam is going to be a mitigation measure, then the report must be clear that there is no plan by the State indicating this dam will be breached in the foreseeable future without the proposed Corps project. If breaching the dam as part of this project substantially accelerates when the dam would be breached the increment of benefit gained by earlier breaching may count as mitigation.

The effects of breaching the historic dam must be addressed. It is clear by statements in the response and others that the State Boat & Fish Commission and the SHPO have an established a process to address this issue. Incorporate this existing agreement as precedence for assuming the tradeoff is acceptable at this location if the same coordination approach is used. This acknowledges the effects and presents the established significance of the impact and the mitigation approach.

The proposed ecosystem mitigation must be based on a quality or function based analysis. The complexity of the analysis should be commensurate with the significance of the anticipated effects. Using BPJ is acceptable for a project this size if all resource agencies involved concur. Comparison of the resultant mitigation plan with established mitigation ratios used for 404 Permits is acceptable for purposes of comparison only. However, this is not a permit action and all applicable regulations require the proposed ecosystem mitigation must be based on a quality or function based analysis and the final mitigation plan must be developed using CE/ICA.

**Discussion.** Issues relative to the definition of wetlands impacts were addressed fairly thoroughly in previous discussions of the comment in paragraph 20 above.

**Required Action.** Compliance with the actions discussed in paragraph 20 above will address issues relative to defining the required mitigation. However, the draft report should also address the questions relating to the historic nature of the dam and its breaching, including adding the information from the first two sentences of the District's response to the appropriate report section, addressing the cultural significance of the dam, and addressing the likelihood of this dam being breached under the without project condition.

**Action Taken.** A functional assessment of the wetland systems in the project area was conducted by the District and is included in the environmental section of the Planning Appendix. The importance of these wetlands has been added to Section 2 on page 2-8. Regarding the functional based discussion for Section 5.4.4, Section 2.4.4 documents the value of the fishery to state resource managers little or no value is expressed at all. Section 5 details the impacts (direct, irretrievable loss) of this habitat and Section 5.15 details the proposed action to offset

this impact. The proposed fish mitigation at Boone's Dam is not slated to be done by others in the foreseeable future since this concept was developed particularly to offset the impacts of the levee project on Fishing Creek.

**HQ Final Assessment. This issue is resolved.**

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**28. Section 5.16.1 – Mitigation for the NED Plan.** This section discusses mitigation for the NED Plan. However, earlier resource specific impact discussions do not support the need for mitigation. The adverse effects of implementing the proposed ecological mitigation plan are not considered. The biggest mitigation feature does not show environmental improvement compared to the Future No Action Condition so the feature is not appropriate as mitigation. Furthermore, the costs of the mitigation measures do not appear to be included in the economic analyses. If the described ecological mitigation were not justified, the Federal share of this project would be substantially increased. Moreover, a significant cultural resource would be unjustifiably damaged for the project and the Federal government would be incurring additional costs for mitigation of the cultural resource.

Section C-3.e.(1) of ER 1105-2-100, requires that project-caused adverse impacts to ecological resources be avoided or minimized to the extent practicable, and that remaining, unavoidable impacts must be compensated to the extent justified. The ER continues that the recommended plan and the NED plan, if not one in the same, shall contain sufficient mitigation to ensure that either plan selected will not have more than negligible adverse impacts. Following are specific concerns generated by Section 5.16.1:

(1) This discussion says unspecified wetlands mitigation will be implemented at a ratio of 1.5 for 1.0. The Corps does not use general ratios to determine wetland mitigation. Mitigation is determined based on an analysis of quality. Section 5.4.2-Wetlands, describes the 0.7—0.9 acre of “wetlands” that will be filled as mediocre wetlands of which most may not be jurisdictional wetlands. A Nationwide Permit may cover this impact. The district must describe the evaluation methodology and reasoning to support the mitigation for 0.7—0.9 acre of mediocre wetlands in 5.4.2 and summarize the measures to achieve the mitigation in 5.16.1.

2) Most of the mitigation plan focuses on breaching a historical dam to restore free-flow to a segment of river. This causes several concerns:

- First, it is not clear what is being mitigated. Section 5.4.4-Fish, does not indicate any adverse impacts to the fishery resource requiring mitigation. The district must describe any significant project induced impact to the fishery.

- Second, assuming there is an unstated need for fisheries mitigation, it is not likely breaching the dam would provide mitigation. Mitigation requires improvement of an environ relative to its Future No Action Condition. The Chesapeake Bay Fish Passage Task Group

(CBFPTG) is already in the process of removing similar dams throughout this basin. CBFPTG will probably remove this dam in the foreseeable future without a Federal project. The district must justify why this breach is considered mitigation since removal of the dam by CBFPTG may be the No Action condition

- Third, Section 2.4.2 does not discuss whether the dam that would be breached is retaining an elevated water table that supports anthropogenic wetlands on the floodplain for the length of the pool. If the dam is breached to mitigate significant project fisheries impacts, the water table will respond as will the riparian and wetland habitats. The district must describe the effects of dam removal on riparian wetlands dependent upon the hydraulic changes induced by the dam in Section 5.4.

- Fourth, the dam that would be breached and other features of the Susquehanna River Canal system are historically significant. The dam is likely to be eligible for the Federal Register. The act of breaching the dam is a significant effect on the dam and dewatering may significantly affect other significant features. The district must describe the effects of the “biological mitigation” on the cultural resources in Section 5.7. The district must also justify the trade-off of significant impacts to cultural resource to mitigate insignificant impacts by the NED project to a biological resource.

- Fifth, neither the cost of biological or cultural mitigation measures are presented as project implementation costs as required by ER 1105-2-100, 2-4.k.(2). These costs may be enough to change the NED alternative. The district must include a CE/ICA derived mitigation plan in the Alternative Descriptions for each alternative in the final array. The cost of the mitigation measures for each alternative must be obvious in the project economic analysis (see the comment in paragraph 26 above on Section 5.4.2).

**District Response.** (1) In the Mid-Atlantic region, “general” ratios have been the accepted practice in the Section 404 community since the early 1990’s. There is even regional guidance on this found in the Interagency Mitigation Task Force’s Mitigation Issue papers which were developed in the early 1990’s and are still in use today. That being said, the District does not disagree that the type and quantity of compensatory wetland mitigation should be based on the functions provided by the impacted resource. Using this guidance and the best professional judgment of the resource agencies in the field review of the project alignments and impacts, the District proposed the 1.5:1 ratio in the report. Again, this wetland mitigation project is the removal of earthen berms that have covered the original wetland surface and have fragmented a larger wetland into pieces over time. This restoration project is very cost effective and restores lost functions of this aquatic ecosystem component.

(2 - 1<sup>st</sup> Bullet) Concur. DEIS will be revised to narratively discuss the impact to the Creek ecosystem. This includes construction work lasting a period of several months, potentially over a period of two years, along about ½ a mile of the creek and the permanent alteration of instream habitat and riparian cover.

(2 - 2<sup>nd</sup> Bullet) See above response to this issue in the comment in paragraph 27 above. The interagency team found this water resource opportunity in the field review of the project and supports not only the analysis of the impact but also the need to offset that with mitigation.

(2 - 3<sup>rd</sup> Bullet) The dam supports no anthropogenic wetlands. Report language will be clarified.

(2 - 4<sup>th</sup> Bullet) The dam is a locally significant resource but the tradeoff of this resource for other goals has already been made by the Commonwealth and their very active program to notch and remove old dams. Necessary Section 106 compliance will be conducted in PED phase if needed but given the coordination with the SHPO's office and the PA Fish and Boat Commission, it isn't anticipated to be an unacceptable tradeoff.

(2 - 5<sup>th</sup> Bullet) As discussed in the response to the comment in paragraph 27 above, \$1.8 million is in the MCACES on Summary pages 6 and 15 and has been factored into the NED analysis.

**HQ Assessment.** (1) This issue is partially resolved. Ecosystem mitigation for specifically authorized projects must be based on a quality or function based analysis. The complexity of the analysis should be commensurate with the significance of the anticipated effects. The response provides a better description of the mitigation measures than previously provided. If all resource agencies involved concur, a quality/function-based analysis using BPJ is acceptable for a project this size. However, this analysis must be well documented and the proposed ecosystem mitigation plan must be developed using CE/ICA. The District should not use the term "restore" interchangeably with "mitigate" as they have in the last sentence of the response.

(2 - 1<sup>st</sup> Bullet) Revising 5.4.4 to describe the mitigable impacts to the fishery resources partially resolves this part of the comment. As discussed above in Comment aa, the report must be clear that breaching this dam is not already planned by CBFPTG or another entity or the action is part of the Future Without Project condition. If it is specifically targeted for removal and appears the entity proposing the removal has the capability to implement the action, only the benefits gained between the planned breaching and when we breach the dam count as mitigation. The District must present a quality/function-based analysis that quantifies the impact of the alternatives and shows the value of the proposed mitigation. Again, the complexity of the analysis should be commensurate with the significance of the anticipated effects, the analysis must be well documented, and the proposed mitigation must be developed using CE/ICA.

(2 - 2<sup>nd</sup> Bullet) This issue is not resolved. As explained in the assessment immediately above, the District must present a quality/function-based analysis that quantifies the impact of the alternatives and shows the value of the proposed mitigation.



(2 - 3<sup>rd</sup> Bullet) Including a statement in the report that the historic dam has not created any anthropogenic wetlands along the floodplain will resolve this portion of the comment.

(2 - 4<sup>th</sup> Bullet) The existence of an established program of breaching historic dams to improve fisheries sets precedence that the proposed breaching of this dam is acceptable to the Pennsylvania SHPO, assuming some routine mitigation, e.g., thorough documentation of the structure prior before the actual breaching. This should be confirmed in writing and presented in the cultural resources discussions in the Draft Feasibility Report and the DEIS. Including the suggested discussion and the confirmation letter from the SHPO will resolve this concern.

(2 - 5<sup>th</sup> Bullet) This issue would be partially resolved by including \$1.8 million for ecosystem mitigation in the MCASES. However, it is still not clear that CE/ICA has been applied to determine which of the proposed measures within a mitigation plan are justifiable. Further, given the uncertainty surrounding the cultural-historic surveys, data analyses, mitigation measures and the costs of these measures it is unclear how or if cultural-historic mitigation is sufficient or what impact it may have on project economics. The Draft Feasibility Report must present a CE/ICA demonstrating which of the proposed mitigation measures justified and how cultural-historic mitigation affects project economics.

**Discussion.** Issues relative to the definition of wetlands impacts were addressed fairly thoroughly in previous discussions of the comment in paragraph 20 above.

**Required Action.** Responding to the actions identified in the comments in paragraphs 20 and 27 above will address these concerns.

**Action Taken.** The final report and EIS explain that these mitigation projects are clearly required due to adverse impacts to these resources (wetlands and fish habitat) stemming from the construction of this project and that the projects conceived to offset these impacts are not part of a future without-project condition, but are in fact developed specifically for this project. The CE/ICA for this project has been based on a functional assessment of these systems and the CE/ICA supporting data is in the Planning Appendix.

**HQ Final Assessment. This issue is resolved.**

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**29. Chapter 7.** This listing of environmental laws and orders complies with the P&G requirement for such a listing. However, the checklist is only part of what is required. ER 200-2-2, paragraph 25 also requires a summary of reviews and consultation requirements, analyses, and status of coordination associated with applicable laws, executive orders, and memoranda. Failure to include these discussions excludes the public reviewers the opportunity to see how federal and state agencies have interacted to develop and evaluate the alternatives. These discussions document the current status of compliance, equally important preparation of these discussions requires the district to double check their current compliance status. The

district must also explain for each applicable statute what is completed and what remains to be done to comply with the applicable statutes, regulations, and orders. These statutes include, but are not limited to the Clean Water Act (restate intent to use Section 404(r)), the Clean Air Act, NEPA, the Endangered Species Act, National Historic Preservation Act, Archeological and Historic Preservation Act, Anadromous Fish Conservation Act, Farmlands Protection Policy Act, CERCLA/RCRA, Fish and Wildlife Coordination Act, Section 122 of Rivers & Harbors Act of 1970, EO 11988, and EO 12898.

**District Response.** Non-Concur. ER 200-2-2 does require a summary of reviews and consultation requirements, analyses, and status of coordination associated with applicable laws, executive orders, and memoranda. However, it does not require the discussion to be segregated from the topical subject in the document where it applies into a single section. The environmental laws that are relevant for this project are addressed in their respective sections within the text. For example, Section 5.6 explains the CAA statute, identifies the necessary steps for compliance, and states that compliance is complete. The same is true for Clean Water Act (5.4.2, 5.16, and attached 404(b)(1)); Endangered Species Act (2.5, 5.5); NEPA (1.5); Historic Preservation Laws (2.7, 5.7); Anadromous Fish Conservation Act (5.16.2); Farmlands Protection Policy Act (2.12, 5.12); CERCLA/RCRA (2.8, 5.8); Fish and Wildlife Coordination Act (2.5); EO 11988 (5.14), EO 12898 (2.9, 5.9).

**HQ Assessment.** The resource discussions do include mention many of the statutes cited in the Chapter 7 table. However, most of these discussions are what is required to comply. Most do not provide information on the actual input and status of coordination. It is not critical where these discussions are incorporated, but they must be presented. It is also important that each applicable statute in the table is discussed in the text.

**Discussion.** Discussions in the body of the draft EIS/FR will be included on pertinent environmental laws and regulations listed in the compliance table. Additional clarification and/or qualification will be included on the current status of compliance.

**Required Action.** The draft report should include the appropriate discussions on pertinent environmental laws and regulations as discussed above.

**Action Taken.** The District indicated that the required action was “Done, as appropriate.”

**HQ Assessment.** The information on compliance with environmental statutes is not located in the normal places and is scattered throughout the report/EIS. Readers should not have to search the entire document to determine whether legal compliance was achieved. The statutes are not even identified in the Index. 33 CFR 230.25 requires the final document to summarize the results of coordination completed or underway pursuant to the various applicable environmental laws, executive orders, and memoranda. The draft report should have

summarized the reviews and consultation requirements, analyses, and status of coordination for the environmental laws, executive orders, and memoranda.

**Discussion/Required Action/Action Taken.** As a minimum, the compliance table should include a column that identifies (cross references) the various and respective discussions about compliance with individual statutes. Such a column was added to Table 27.

**HQ Final Assessment.** The additional column is sufficient. **This issue is resolved.**

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**30. Section 8.2.** ER 1105-2-100, paragraph 2-5.b says all Corps planning studies must take into account the public's views as well the input of other agencies before decisions are reached. The FR-EIS must document how the public's desires, needs, and concerns have influenced the project design and alternative selection. Section B-5.c.(2)(d) of the ER says "the public involvement section of the report shall show how public input was used in the planning and decision-making". Section 8.2 does a good job presenting the key issues raised during public scoping, but it does not explain how the input was used or why it was set aside. This same information is required as part of the Public Involvement discussions of an EIS. Public involvement is essential to the planning and NEPA processes; failure to document consideration of public involvement violates several Corps regulations and laws. To comply with requirements of Corps regulations and CEQ scoping regulations, the district must document how public input was used in the planning and decision-making, and explain why any key issue raised during public scoping was not considered. The district will incorporate highlights of this discussion in the Summary required by and described in 40 CFR 1502.12.

**District Response.** The Public Involvement effort on this project is not complete. The initial scoping meeting, subsequent site visits (many over a period of years involving many different disciplines), three project newsletters, many articles in the local newspapers and other efforts have been made to engage the public in this study. Many of the issues that have been brought up by the public have already been discussed in the report. Of these, only a few of the comments had technical bearing on the formulation of the project. Several of these are as follows:

*"i. Project alignments-Many of the landowners had expressed reservations, as expected about the various forms the project alignment could take. In the greater scheme of things, the economic damage centers drove the alignments, not any groups or neighborhood.*

*ii. Mode of flood protection-Many citizens wondered how they would be afforded flood protection. Various means were investigated including structural and non-structural measures. Many citizens have heard over time that dredging the river is the best option. Other mentioned that buy outs were what they wanted. All of these were considered and addressed in the report.*

iii. *Protection against increased flooding impacts-The public brought up issues such as facilities being impacted. The sewage treatment plant water treatment plant, the electrical substation and railroad operations are all subjects that were cultured from comments at the various public meetings over the years held locally in the project area. These have been documented in the draft FR/EIS.*

iv. *Areas left out of protection-Although this turns mainly on the economics of the solutions, some areas of Town were concerned with flood protection and will not be protected as part of the NED plan. This remains a thorny issue that will be addressed as the project goes through the public review process this year.*

v. *Protection of cultural resources such as the McClure house, the covered bridge over Fishing Creek, the RR trestle bridge over the River and other important resources from flood damages-Some of these could not possibly be protected by this project due to their location. Some are slightly affected. One resource, the RR bridge over the river, was slated for removal as part of the Wyoming Valley Levee-Raising project and now is being kept in due to more accurate H&H modeling at the locality of the bridge from the Bloomsburg study.”*

The District anticipates many comments from the public during the review of the DEIS. This may or may not bring up new issues the PDT will need to address. However, the major substantive comments that affected the formulation of the NED project have been documented in the FR/DEIS.

**HQ Assessment.** This issue is partially resolved. The response provides an excellent summary of the major issues raised through public involvement. This summary should be incorporated into the Summary or Section 8.2. However, Section B-5.c.(2)(d) of ER 1105-2-100 is very clear “*the public involvement section of the report shall show how public input was used in the planning and decision-making*”. Nothing in the response indicates Section 8.2 or the Public Involvement discussions of the DEIS will be revised to explain how the input was used or why it was set aside. Additional input provided by the public as a result of public review should be addressed in the Comments and Responses, and if appropriate, the text of the Feasibility Report and/or the EIS will be changed to reflect any significant new issue or concern. The Draft Feasibility Report/DEIS must be revised to include the required discussions of “*how public input was used in the planning and decision-making*”.

**Discussion.** After discussion of this issue, the vertical team agreed that additional wording will be included to clarify how the public’s involvement has and will affect planning and decision making.

**Required Action.** The draft report needs to be revised to include the summary of public issues presented above and expanded to explain how the input was used or why it was set aside. Additional input provided by the public as a result of public review should be addressed in the

Comments and Responses, and if appropriate, the text of the Feasibility Report and/or the EIS should be changed to reflect any significant new issue or concern.

**Action Taken.** Section 8 identifies substantive issues raised throughout the study and the actions taken to incorporate as much of those ideas as could be into the study process.

**HQ Assessment.** There are no responses to the letters received on the draft report/EIS. A comment by comment response is required for the final report in accordance with 40 CFR 1502.9 and 40 CFR 1503.4. Considering the EPA rating the DEIS as EC-2, it is most important that EPA's review comments be addressed. CECW-PC is not questioning that NAB has assessed and considered the comments or that changes to the document have in many cases been made. It is just extremely difficult to find documentation of the responses and there is no documentation of "comments do not warrant further agency response", or "reasons which support the agency's position". We interpret that as a response for each comment, whether it is a general or project specific comment.

**Discussion/Required Action/Action Taken.** Responses to each comment must be added to the final report and FEIS prior to filing the FEIS with EPA. A table displaying the agency comments and responses was added to the final report and FEIS prior to filing the FEIS with EPA.

**HQ Final Assessment. This issue is resolved.**

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**31. Cultural Resources.** We cannot at this time offer substantive comments on cultural resources compliance for this study due to insufficient documentation. Page 7 of the Quality Control Review Report carries the following statement: "The report mentions all of the known resources that have been identified but lack actual data on which to base conclusions regarding the project's impact to cultural resources. The District's plan is to submit the DEIS for HQ review and add this data and analysis into the document prior to releasing it for public review this summer." More information on the impacts on cultural resources is needed before we can fairly assess whether the work complies with policy. At a minimum, the report needs to offer: an inventory of known resources; resources eligible for listing in the National Register of Historic Places; an assessment of project effects on the eligible properties; potential mitigation measures; information on coordination with the SHPO, ACHP, Indian tribes and other consulting parties; and, support data including a report of findings and actual correspondences reflecting appropriate consultation.

**District Response.** The non-Federal sponsor is proceeding with the Phase I B cultural resource investigations. The District and the sponsor have met several times with the SHPO's office related to the scale and scope of this work. Due to the extensive nature of the field work needed to conclude Phase IB, the majority of this work will not be complete until May or June of 2005. If at that time there is not a need for Phase II investigations, all parties will meet and

documentation will be inserted into the FEIS explaining this. If Phase II work is required, the District and the SHPO will need to discuss an agreement for PED prior to moving forward. Under no circumstances will construction be commenced without the conclusion of proper consultation under Section 106 and any other pertinent cultural resource laws.

**HQ Assessment.** The response does not indicate intent to include the minimum requirements called for in the comment. It appears the District is on a schedule to produce and circulate the Draft Feasibility Report/DEIS before HQUSACE sees the promised data and the analysis of that data. The significance being placed on the incomplete cultural-historical information indicates there may be substantial costs involved with efforts to mitigate potential adverse effects. It is not clear if both project implementation alternatives will impact these resources equally or there is a substantial difference. If the impacts and mitigation are essentially the same this analysis has little bearing on selection of a TSA or the TEPA. However, the cost of mitigation may adversely impact the economic analysis. If the project schedule cannot be adjusted to allow completion of the cultural-historical surveys, analyses of the data, and development of a mitigation plan, the District should prepare a mitigation plan based on an assumed reasonable worst-case and use the cost of this mitigation package in the economic analyses. The use of this approach must be clearly documented in the Draft Feasibility Report and the DEIS with a clear concise statement that this may change substantially after all data are available, analyzed and presented in the Final Feasibility Report and the EIS.

**Discussion.** Cultural resources issues were discussed during the review of the comment in paragraph 22. Clarifications will be made in the draft report/EIS to fully disclose that the process is not complete and that changes in the project may be warranted should further compliance work reveal the need to mitigate impacts to cultural resources. A discussion on the level of risk/likelihood will be included.

**Required Action.** Compliance with the required actions discussed in the comment in paragraph 22 will address these issues.

**Action Taken.** The report and EIS indicate the incomplete status of the Section 106 compliance for this project. A programmatic agreement (PA) for attaining full compliance prior to construction was drafted and forwarded to the SHPO for consideration. Via a letter dated August 2005, the SHPO concurs that the PA is an acceptable process for cultural resources compliance on this project.

**HQ Assessment.** Volume 2 includes a draft of the "proposed Programmatic Agreement" with the SHPO. Key information is missing from the Feasibility Report and the agreement. Meetings to evaluate surface and known sites should be addressed. Digging, in-depth documentation, recovery and archiving are mitigation, and should be deferred until construction. We currently have minimal information about what we are dealing with. The agreement should describe what we know and what we will do to mitigate, and the contingencies for unknown

resources discovered during construction. The \$500,000 mitigation cost estimate is not supported by information in the report.

**Discussion/Required Action/Action Taken.** The 23 August 2005 letter from the SHPO indicating acceptance of the proposed Programmatic Agreement was included in the report and the District identified existing and adequate descriptions of the pending work in the report.

**HQ Final Assessment. This issue is resolved.**

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**32. Real Estate.** Quite a bit of analysis is being deferred to PED. For example:

- "Utility and facility relocations required by the project have not been specifically determined at this time." Section 15, Real Estate Plan. It is unclear whether any preliminary attorney's opinions of compensability have been prepared in accordance with ER 405-1-12, para. 12-17 or whether any new rights-of-way would be required. It would appear that at least some new utility right-of-way would be required to extend existing storm sewers through the line of protection. Section 4.4, page 4-10.

- "Staging areas will be thoroughly identified during preconstruction engineering and design...." Section 4.5, page 4-11.

- "[A] formal interior flooding analysis has not yet been conducted" for the Fernville portion of Recommended Plan. Section 4.4, page 4-10.

- "Closings will be scheduled to minimize disruption to the railroad operation. Further investigations will be completed during PED." Section 4.6, page 4-13. It would be useful to have at least some indication whether the affected railroad line would otherwise be impassable due to flooding at such times in the without project condition.

- Development and evaluation of alternatives for mitigating riparian habitat losses by providing fish passage to Lower Fishing Creek and affecting a historic low-head dam is to be performed during the next project phase. See section 5.16.2, page 5-23.

Inasmuch as the BCR has gone from 1.79 during the preliminary screening of project alternatives to 1.33 currently (*see* Table 3-13, page 3-48 and Table 4.2, page 4-14) and that there have been numerous previous studies that reported a lack of economic justification to proceed with construction of a Federal flood damage reduction project at Bloomsburg (*see* Section 1.3.1.), one might question whether further analysis of all of these issues which potentially affect project costs should be deferred. The District needs to explain how the project cost estimates account for these potential costs, the basis for concluding that the estimates would not change significantly with more detailed information, and why the anticipated cost changes would not affect the plan selection. Identify the contingencies level used for each of these items.

**District Response.** (1<sup>st</sup> bullet) Preliminary Attorney's Opinions of Compensability have not been prepared since the utility mapping and relocation requirements have not been done. This will be done during PED. We are not aware now of a need for additional utility rights-of-way based on the existing design beyond what has been planned. We will take note of this comment and review the design during PED with this in mind. Our estimated contingencies should cover this concern. Contingency for RE is 21%.

(2<sup>nd</sup> bullet) The District assumed approximately one acre on the Bloomsburg and the Fernville side of the project to determine placeholders for the MCACES regarding staging areas. This per acre cost will be revisited during PED once probable staging areas are identified and the project construction plans and sequencing are more fully defined. Due to a significant part of the construction area being owned by the County Fair Board, we may be requesting staging a large amount of the materials on that property as well as gaining construction access through those lands. These lands are directly adjacent to State Roads and have the most acreage in Town for this purpose. If this is not possible, alternative lands are available that are many acres in size, and there are other smaller parcels among the project lands that may also be used. In any event, these costs for what will likely be temporary construction and access easements will be based partially on the REP for the project and partially on local conditions at the time of construction and should not significantly affect the BCR. Contingency for RE is 21%.

(3<sup>rd</sup> bullet) We did the preliminary analysis to determine if any expensive additions would be needed for interior drainage. A preliminary interior flooding analysis on the Bloomsburg side indicated that we would not need any pump stations, only drainage structures through the levee, which are identified in the feasibility report. This conclusion could possibly change when we perform the full analysis in PED. We did not do any analysis of the Fernville side interior flooding because of lack of adequate mapping. The PDT used what topography we have on the Fernville side to identify low areas behind the Fernville alignment and provided drainage structures through the levee, which are identified in the feasibility report. Contingency is 15%.

(4<sup>th</sup> Bullet) In a November 2004 letter from SEDA-COG Joint Rail Authority (enclosed), this railroad line receives daily use. During the flooding from Tropical Storm Ivan in September 2004, the railroad was flooded and couldn't operate. This occurred both in the Town (at Magee carpet) and downstream at the village of Rupert. The rail line receives one trip in the morning and one in the early afternoon, leaving about a four hour window for construction activities between these trips. At this stage of project planning, the rail authority has indicated that work on the closure structure crossing the railroad could be planned to occur between 2PM and 10AM the following day. This would minimize the daily disruption of the rail line. It is difficult to apply a cost to this item at this time other than that which is found in the MCACES for this closure. Normal contingency of 21 % has been applied. Contingency is 15%.



(5<sup>th</sup> Bullet) The project has been coordinated with the resource agencies having jurisdiction over this area for several years. Agencies such as the USFWS, PA Fish and Boat Commission, PA Game Commission, and the EPA have been on site over the years to review the project alignments and impacts as well as to identify any compensatory mitigation requirements and concepts to satisfy those requirements. Their involvement during feasibility has been documented in the feasibility report and DEIS. Once the DEIS is circulated and the agencies and the public comments on the DEIS, the Corps will use this information to develop the final environmental mitigation package. As always, the mitigation sequencing of avoidance, minimization and then compensatory mitigation will be followed for the appropriate resources. Since the mitigation cost in the MCACES is almost \$2 Million, and since the agencies have been so involved during the study, the PDT feels confident that the cost for the mitigation will not increase. This cost was developed prior to a second round of field review by the agencies in December of 2003 and the team minimized impacts based on several issues after that time. Therefore, the mitigation requirements that the agencies recommend may actually cost less than we budgeted. Contingency is 15%.

(last paragraph) None.

**HQ Assessment.** It is noted that the REP does not comply with paragraph 12-16 of ER 405-1-12 as to the identification of the real estate requirements of the project and the preparation of preliminary attorney's opinions of compensability. The District seems to indicate that the required planning effort, which is proposed to be deferred until PED, is not expected to identify real estate costs in excess of the contingency amount. The support for this conclusion is not readily apparent. Individually, the as-yet-to-be identified real estate requirements may well be within the contingency. The cumulative impact, however, is unclear. The concern is not resolved.

**Discussion.** Information will be included to substantiate assumptions regarding the Attorney's Opinion of Compensability and utility relocation costs.

**Required Action.** The draft report should be revised to explain the basis for planning assumptions relating to the real estate requirements, if any, of the utility and public facility relocations identified to date. Such explanation should include discussion of the extent to which public facilities, such as roads, are to be relocated in place within the existing rights-of-way and the basis for preliminarily concluding that utility owners lack a compensable interest in real property for facilities covered by right-of-way agreements with the Town of Bloomsburg and PennDoT. The report should also be revised to explain the basis for planning assumptions regarding the apparent lack of any need for additional rights-of-way for the relocation of utilities and public facilities not covered by agreements with the Town of Bloomsburg or PennDoT.

**Action Taken.** After the IRC, the District forwarded a document itemizing the cost assumptions for real estate costs to HQUSACE. Regarding the Opinion of Compensability, the property ownership mapping for the project in the REP indicated no fee simple interests by

utility companies anywhere in the project area. Utilities in this project area appear to be collocated with other infrastructure and may occupy a right of way. Final utility information for this project is incomplete and thus no Opinion of Compensability can be prepared at this time. However, given the District's experience with other project areas in the Commonwealth, this is judged to be a low risk real estate item and applicable costs and contingencies have been included in the MCACES estimate.

**HQ Final Assessment. This issue is resolved.**

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**33. HTRW Response Costs.** The draft report indicates at Sections 4.2 and 4.2.1 that the non-Federal sponsor, the Town of Bloomsburg, would be responsible for any and all RCRA Subtitle C HTRW response costs. This idea is repeated on page ii, in footnote 2 on page 2-12 and in section 6.3 on page 6-5. However, Article XV of the Model Structural Flood Control PCA would appear to assign to the non-Federal sponsor only CERCLA response costs. Policy Guidance Letter No. 34 indicates that the cost of required action for contaminated material not regulated by CERCLA will be a project cost and will be shared as a construction cost.

**District Response.** This is an editing error. The report has been changed in all of the aforementioned places to match the guidance and the Model PCA. RCRA costs will be cost sharable project costs, CERCLA costs will be born by the sponsor as required. For PED budgeting and construction cost purposes the team had to make an assumption of the division of the in-situ material into RCRA regulate fill and other materials and those subject to CERCLA. Further testing in PED and during construction may change these costs. A contingency of 15 % has been applied.

**HQ Assessment.** The response is adequate.

**Required Action.** The draft report should be modified to reflect that the cost of required action for contaminated material not regulated by CERCLA will be a project cost and will be shared as a construction cost.

**Action Taken.** Section 6 has been edited to highlight this as well as Section 5.8 and page v of the summary.

**HQ Final Assessment. This issue is resolved.**

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**34. Water Supply Reservoir.** The draft report indicates in Section 4.5.1 on page 4-12 that "*an unutilized 2.0 million-gallon brick reservoir would be upgraded so that it could provide potable water during a flood event.*" It is unclear why this should be part of the proposed flood control project.

**District Response.** Concur. The upgrade would be made as part of non-structural mitigation for increased flooding under with-project conditions. Under with-project conditions, the water treatment plant is likely to be inundated more frequently, thus rendering the plant unable to produce water more often than under without-project conditions. A plan to address increased flooding using standard floodproofing techniques was developed, which includes the installation of hoists and associated lift equipment that would be used to raise pumps and other critical equipment above the with-project 100-year water surface elevation. While these measures would reduce damages to equipment, with-project water surface elevations would still cause more frequent water production down-time. It was assumed that this issue of decreased water supply could be mitigated through the provision of additional storage capacity. An upgrade of the unutilized reservoir was proposed for this reason. The last three paragraphs of Section 4.5.1 have been revised to ensure that the reason for the upgrade is more clearly explained.

**HQ Assessment/Required Action.** The draft report should be modified to reflect the changes described in the District response above.

**Action Taken.** Section 4.5.1 explains the reason for the upgrade.

**HQ Final Assessment.** This issue is resolved.

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**35. Easement Acquisition.** In Section 2.1 of the Real Estate Plan, one of the criteria for acquisition of a fee simple interest is an easement acquisition that "leaves no remainder". This does not seem possible. A partial take would always leave a remainder though it may be decided, as is suggested in the same sentence, that if the remainder is an uneconomic remnant that it should be acquired in fee.

**District Response.** The final report REP will be changed to address this concern.

**HQ Assessment.** The response is adequate.

**Required Action.** The draft report should be modified to reflect the changes described in the District response above.

**Action Taken.** Section 2.1 of the Real Estate Plan no longer states a criterion for acquisition of a fee simple interest as an easement acquisition that "leaves no remainder".

**HQ Final Assessment.** This issue is resolved.

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**36. Fernville Drainage Estates.** It is unclear whether the five interior drainage structures for the Fernville portion of the Recommended Plan are to be placed on lands acquired in fee or, if not, whether a levee easement estate is appropriate. Section 4.4, page 4-10.

**District Response.** As provided in the REP for the project, the Standard Flood Protection Levee Easement reads in part, "...to construct, maintain, repair, operate, patrol and replace a flood protection levee, including all appurtenances thereto..." As discussed with our District Real Estate Counsel, the Fernville drainage structures are currently envisioned to qualify as appurtenances to the flood protection levee. The estate language is therefore sufficient to allow the placement, operation and maintenance of these structures. Any piece of land rendered as an uneconomic remnant will be a fee acquisition. The design will be reviewed during PED with Real Estate team members. If significant changes to the drainage structures are made, the real estate interest might be reconsidered.

**HQ Assessment.** The District's response adequately addresses the specific concern however it is noted that Section 2 of the REP is otherwise somewhat vague as to whether fee simple or the standard perpetual flood protection levee easement is being proposed for any particular flood protection component.

**Discussion.** The RIT will send the real estate team members an example of how the presentation could be clarified for the final version of this report and for future reports. The draft report will be modified accordingly.

**Required Action.** The draft report should be modified to address the concerns identified above based on the provided example

**Action Taken.** The District does not recall receiving information from the RIT for this and future project reports and REPs. The REP language has been slightly modified as well as Section 4 of the report to clarify the real estate instruments required.

**HQ Final Assessment. This issue is resolved.**

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**37. Environmental Compliance.** There seems to be some inconsistency in the description of the level of compliance with certain environmental statutes as set forth in Section 7, page 7-1. It states, "*For this stage of the planning process, compliance was met for all environmental quality statutes and environmental review requirements.*" However, there are several statutes cited for which the level of compliance is described as "*Partial*" which is further defined as "*Not having met some of the requirements that normally are met in the current stage of planning.*"

**District Response.** Non-Concur. There are no inconsistencies as the level of compliance is accurately presented in Table 7-1. As stated in Section 5.7, the Cultural Resources characterization is not yet completed and will be finished while the FS/DEIS is out for public and

agency review. "*Partial*" is the appropriate indicator for the Archeological and Historic Preservation Act and the National Historic Preservation Act. With respect to the Fish and Wildlife Coordination Act, compliance with this statute will be concluded as the EIS moves from circulation of a draft statement to the final statement and Record of Decision. As stated in response to the comment in paragraph 6, the State College USFWS office has proposed this process for compliance with the statute.

**HQ Assessment.** The District's response does not adequately explain how they achieved compliance with all environmental quality statutes and environmental review requirements for this stage of the planning process while, at the same time, not meeting some of the requirements that normally are met in the current stage of planning. If the level of compliance with environmental requirements is indeed partial, then the second sentence of section 7, page 7-1, should be deleted.

**Discussion/Required Action.** The environmental compliance status was discussed under the comment in paragraph 29 above. Compliance with the actions outlined in paragraph 29 will address this concern. Emphasis should be on consistency of terminology.

**Action Taken.** See paragraph 29.

**HQ Final Assessment.** This issue is resolved.

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**38. Items of Local Cooperation.** Substitute the following for the first three bulleted items in Section 6.2 on page 6-2 and the fifth and sixth bulleted items on page 6-4:

- "Provide a minimum of 35 percent, but not to exceed 50 percent of total project costs as further specified below:
  - (1) Enter into an agreement which provides, prior to execution of the project cooperation agreement, 25 percent of design costs;
  - (2) Provide, during construction, any additional funds needed to cover the non-federal share of design costs;
  - (3) Provide, during construction, a cash contribution equal to 5 percent of total project costs;
  - (4) Provide all lands, easements, and rights-of-way, including suitable borrow and dredged or excavated material disposal areas, and perform or assure the performance of all relocations determined by the Government to be necessary for the construction, operation, and maintenance of the project;

(5) Provide or pay to the Government the cost of providing all retaining dikes, wasteweirs, bulkheads, and embankments, including all monitoring features and stilling basins, that may be required at any dredged or excavated material disposal areas required for the construction, operation, and maintenance of the project; and

(6) Provide, during construction, any additional costs as necessary to make its total contribution equal to at least 35 percent of total project costs."

**District Response/HQ Assessment/Required Action/Action Taken.** The desired changes have been made to the document.

**HQ Final Assessment.** This issue is resolved.

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**39. Editorial.** Change "1790" to "1970" in the fifth bulleted item on page 6-3.

**District Response/HQ Assessment/Required Action/Action Taken.** The desired change has been made to the document.

**HQ Final Assessment.** This issue is resolved.

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**40. Editorial.** Add at the end of the sixth bulleted item on page 6-3 "; and all applicable Federal labor standards requirements including, but not limited to, 40 U.S.C. §§ 3141-3148 and 40 U.S.C. §§ 3701-3708 (revising, codifying and enacting without substantive change the provisions of the Davis Bacon Act (formerly 40 U.S.C. § 276a *et seq.*), the Contract Work Hours and Safety Standards Act (formerly 40 U.S.C. § 327 *et seq.*) and the Copeland Anti-Kickback Act (formerly 40 U.S.C. § 276c))".

**District Response/HQ Assessment/Required Action/Action Taken.** The desired change has been made to the document.

**HQ Final Assessment.** This issue is resolved.

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**41. Public Use Facilities.** There do not appear to be any public use facilities as described in the list of items of local cooperation on page 6-4.

**District Response.** Concur. There are no public use facilities (e.g., boat ramps, walking trails, other recreation facilities) currently planned for the project. The reference to public use facilities has been deleted.

**HQ Final Assessment.** This issue is resolved.

CECW-PC (10-1-7a)

16 December 2005

Subject: Bloomsburg, Columbia County, Pennsylvania - Policy Compliance Review Record

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**Clifford L. Fitzsimmons, P.E.**  
**Policy Compliance Review Manager**

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